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Measuring the gender wealth gap in South Africa using individual-level data

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Abstract

Despite widespread recognition that assets are important for economic wellbeing and women's empowerment, there is limited research on gender wealth gaps in either developed or developing countries. This is largely due to the lack of individual-level data on wealth or net worth (i.e. the value of assets less debt). Most surveys that collect information on wealth do so at the household level with only one member responding on behalf of the household, even though most assets and debts are held by individuals. In this paper, we measure the gender wealth gap for South Africa using unique individual-level data collected in the 2017 National Income Dynamics Survey, a representative household survey covering roughly 22,000 adults. We find that men and women hold different types of assets and debt and that there is a substantial gender gap in the monetary value of their net worth, greater than the gender earnings gap recorded in the same year. In our discussion, we reflect on some of the key challenges in measuring wealth as well as remaining gaps in data collection and research.

KEYWORDS

assets, debt, gender gap, individual-level data, South Africa, wealth

1 | INTRODUCTION

Despite widespread recognition that wealth is important for economic wellbeing and women's empowerment, there is limited research on the gender wealth gap in either developed or developing countries (Deere & Doss, 2006). This is in contrast to the substantial repository of work that has accumulated over the decades on the gender wage gap or the gender earnings gap. The main reason for this is a lack of comprehensive individual-level data on wealth or net worth (i.e. the value of assets less debt) whereas earnings data are routinely collected in labour force surveys.

When household surveys do collect information on wealth, they generally do so at the household level, and only on certain components of wealth, such as a set of commonly owned assets. In other words, an interviewee responding on behalf of the household is typically asked to indicate whether the 'household' (or anyone in the household) owns land, the dwelling place, a motor vehicle, a refrigerator, a

washing machine and so forth. Even where attempts are made to collect data on individual ownership of assets, generally only one member of the household responds on behalf of all others (as is typical in household surveys), and information on the monetary or market value of the asset is not recorded.

This is problematic for a number of reasons. First, most categories of assets and debt are held by individuals, not households (Deere et al., 2012; Kilic & Moylan, 2016). Only property and household durables (e.g. refrigerators, dishwashers, televisions, etc.) are likely to be owned jointly and, even then, typically only among married couples. Second, experimental research on survey design has shown that *who* answers questions about assets, and particularly whether it is one household respondent on behalf of everyone else or the individual themself, can affect the gender gap substantially (Kilic & Moylan, 2016). Proxy-reporting on individual wealth is therefore likely to produce unreliable estimates of the gender wealth gap. Third, if only ownership is recorded, and not also the market value of assets, the gender gap will be underestimated. This is because even where women and men own similar numbers of assets, they tend to own different types of assets, and women's assets are generally worth less than men's (Doss et al., 2011, 2014). Using the incidence or prevalence of asset ownership to measure differences between men and women would therefore produce a smaller gender gap than using the monetary value of assets. Finally, if only information on assets is collected (as is often the case) and not also on debt, then the gender gap may not be a useful reflection of economic status or wellbeing if women are more indebted than men and would receive less on disposal of their assets (or vice versa).

Because most surveys collect wealth data at the household level, studies that attempt to examine gender differences generally compare female-headed households to male-headed households, or they focus on single (headed) households (see e.g. Ravazzini & Chesters, 2018 on Australia and Switzerland; Schneebaum et al., 2018 on eight countries in Europe; Denton & Boos, 2007 on Canada; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006; Ruel & Hauser, 2013; and Szymborska, 2022 on the United States; Vo & Ho, 2023 on Vietnam). Using headship is problematic for various reasons, but most importantly because female-headed households are likely to be fundamentally different from male-headed households. Female-headed households often do not contain adult male members while male-headed-households commonly contain adult female members, and women living in male-headed households may not own or benefit equally from the wealth in that household.[1]

Indeed, Doss et al. (2020, p. 145) argue that '[t]he empirical utility of high-quality, individual-level data on asset ownership and control cannot be overstated.' Based on both a careful review of the literature and experiences in the field collecting data, they identify some 'best practice' principles with respect to data collection on wealth. In brief, they recommend that *each* adult in the household report on the market value of their *own* assets and debts, and where these are held jointly, they should be asked to indicate their share.

Only a handful of studies are based on data that approximate this 'gold standard'. Sierminska et al. (2010) use data from the German Socio-Economic Panel, which included a special section in the 2002 questionnaire on individual wealth. Their measure of net worth does not include what they refer to as minor wealth components such as the value of cars and household durables, and the questionnaire did not collect information on financial assets, tangible assets and consumer credit worth less than 2500 Euros. They find the ratio of female to male net worth to be 0.69 at the mean or, in other words, a net worth gender gap of 31%. The gender gap at the median was even higher at 50%.

Another important source of data at the individual level comes from The Gender Asset Gap Project of 2010, in which the researchers collected individual-level data in Ecuador, Ghana and Karnataka in India from the single head of the household or from both members of a couple where this was possible (Anglade et al., 2017; Doss et al., 2011, 2014; Hillesland, 2019). Their analysis found significant gender

[1]A fuller discussion on the problems with using headship can be found in Deere et al. (2012). In their study, they draw on surveys from Latin America and the Caribbean that collected information on asset ownership at the individual level for at least one type of asset. Although they did not have monetary values, they were able to compare asset ownership by women and men to asset ownership by female-headed and male-headed households within the same sample. They found substantive differences in the gender asset gap depending on the unit of analysis.

gaps in all three countries, although there was substantial variation in the magnitude of the gap by country and by asset class, an important reminder that institutional context matters. To take the example of ownership of the principal residence, which in all three countries constituted the major share of total physical wealth, women in Ecuador held 55% of the wealth in this asset class compared with only 37% in Ghana and 23% in Karnataka, India. With respect to total financial wealth (or savings), typically found to be more heavily skewed towards men, only 25% of this type of wealth was held by women in Karnataka, India, 35% in Ecuador and 38% in Ghana (Doss et al., 2011, 2014).

We add to this literature by exploring the gender wealth gap in South Africa, using individual-level data collected in the 2017 National Income Dynamics Survey (NIDS), in which many of the 'best practice' principles outlined in Doss et al. (2020) were followed. Specifically, the survey included a detailed module on wealth in which each adult in the household (with a few exceptions) reported on the monetary value of their own assets and debts across the categories of real estate, business, vehicle, financial, pension and household durables, as well as their share in assets held jointly. It is therefore uniquely placed to shed light on the gender wealth gap in South Africa. In this short paper, we present descriptive evidence on the size of the gender wealth gap and its various components. We also reflect on some of the difficulties with collecting data on wealth in household surveys such as NIDS, why it is nonetheless important to try, and where remaining gaps in data collection and research lie.

2 | DATA

We use publicly available data collected in NIDS 2017, a nationally representative household survey conducted by the Southern Africa Labour and Development Research Unit at the University of Cape Town (SALDRU, 2017). The survey includes both a household questionnaire and an adult questionnaire, with each individual in the household responding to the latter. We use the 2017 wave not just because it is the most recent but because it included a top-up sample to increase the number of individuals in underrepresented groups (viz., white, Indian and high-income respondents), which the NIDS Operations team reports had an appreciable effect on the imputation of missing values for variables such as income and wealth (Brophy et al., 2018). We restrict our sample to the 21,600 adults who were aged 18 years and over who were successfully interviewed in 2017.

We use the imputed individual-level data provided in the NIDS derived dataset on asset and debt classes as well as the aggregated totals for assets, debt and overall net worth (i.e. total assets less total debts). We do this because we want our results to be comparable to future work using the data and because the approach taken by the NIDS team both with respect to imputation for missing values and the calculations for assets and debts is appropriate for our purposes (details are available in the NIDS manual by Brophy et al., 2018).[2]

In the survey, information is collected on six classes of assets - real estate (main dwelling and all other property), business, vehicle (including motor vehicles and motorcycles), financial (cash held in bank accounts; unit trusts, stocks, and shares), retirement (pension and retirement annuities) and household durables/possessions[3] and four classes of debt—real estate, vehicle, business and financial

[2]It is noted in the NIDS manual (Brophy et al., 2018, p. 63) that the 'NIDS Operations team investigated outliers in Wave 5 using the blocked adaptive computationally efficient outlier nominators (BACON) algorithm… Once outliers were identified, households were called to verify with respondents whether the values were indeed correct. If we could not contact the household, the values were left in the data. It is therefore the responsibility of researchers to conduct their own outlier detection checks.' We were reluctant to truncate the data at a predefined percentile cut-off as is sometimes done, so we chose a more ad hoc detection approach where we eyeballed the distributions to see whether there were any observations that seemed very much 'out of range' (both for total assets and debt and for each of the components of assets and debt). We excluded only one observation—a woman (African, unmarried, unemployed, with a Grade 7) reporting financial assets of 350 million. The next largest values for that variable were 15 and 16 million. We also set to missing 22 observations that had negative values (albeit low) for real estate debt as these must have been reporting errors (all other debt vales in the data were reported as positive).

[3]This was elicited through a question in the module on personal ownership and debt worded as follows: 'Think about everything inside your house. Suppose you were to sell off your share of everything, excluding any vehicles and the house itself, what would you get for it?'

(including all loans[4] and bank account overdrafts). Unfortunately, information on livestock wealth had to be excluded from the measure of individual net worth as the questionnaire only asked about ownership at the household level (in the household questionnaire), and not about who in the household owned the livestock (we will return to this point later).

All of the information collected above is at the individual level. Each adult in the household responds on their own assets and debt, with the exception of real estate assets. Here the person responding to the household questionnaire is asked for a market value for the main dwelling as well as *who* in the household owns the dwelling and the proportion they own. One assumes this was done to avoid differing valuations of market value where joint ownership exists. Because the person identifiers of the owners are also captured from the household respondent, the share of that property's market value can then be apportioned to those household members in their individual capacity. Just under 57% of household respondents report that someone in their household owns the dwelling place. In 30% of these households, the ownership is joint, with the most common form of joint ownership being equal ownership. In roughly 98% of joint ownership cases, the share owned is 50%, and the vast majority of joint owners (over 90%) are either married or cohabiting.

While individual ownership of the dwelling place is collected from the household respondent, the share of the outstanding balance on the bond/loan taken out on the main dwelling is collected in the adult questionnaire from each individual. Ideally, the individuals themselves should have also been asked to report on the value of the main dwelling and their share of ownership, as was the case with the debt on that dwelling. The household questionnaire was administered to 'the oldest woman in the household and/or another household member who is knowledgeable about the living arrangements and spending patterns of the household' (NIDS, Household Questionnaire). As Doss et al. (2014, 2020) note, the household respondent is more likely to know about the individual ownership of physical assets, such as the main dwelling place, than financial or retirement assets, for instance.[5] Nonetheless, to the extent that this person was unable to correctly value the house and the shares owned by various members of the household, our data deviate from the 'gold standard' and will not be a perfect reflection of individual assets. Because in 78% of the households in which someone owns the dwelling place, the household respondent also reports being the owner of the dwelling place (either sole or joint), we think this problem is likely to be minimised.[6]

[5]Indeed, in their extensive qualitative fieldwork preceding the collection of data for the Gender Asset Gap Project, Doss et al. (2014, p. 408) found that 'while it was likely that one individual within the household would know about the physical assets owned by all household members, it was less likely that this person knew about the financial assets of other household members'.

[6]In the case of *other properties* owned by anyone in the household, the household respondent is only asked for the market value of these properties and not also for who in the household owns them. The value of these properties is therefore apportioned to individuals according to the same shares reported for the main dwelling. This would appear a sensible strategy but, in any case, is unlikely to make much of a difference to the results as only in around 7% of households does a household member own a second property. Even though the share of debt on other properties is collected in the adult questionnaire from each individual, the value collected in the household questionnaire on the outstanding bonds/loan is used in the NIDS calculations and again divided by the proportion of ownership of the main dwelling. As above, the effect on the results is likely to be minimal as in over 80% of cases where someone in the household owns a second property, the household respondent reports no outstanding bond. This figure aligns well with what is reported in the individual questionnaire on debt where 85% of individuals with other properties report no outstanding bond on these.

[4]Information on an extensive list of loans and debts was captured, including a personal loan from a bank, an institution other than a bank, a micro-lender, a *mashonisa*/informal money lender, a family member, friend and employer; a study loan with a bank; credit card debt; store card debt; a hire purchase agreement; unpaid taxes; arrears in services and other monthly bills; and any other.

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3 | RESULTS

3.1 | Ownership by incidence and value

We start out by exploring ownership patterns by gender across the various categories of assets and debt. Specifically, in Table 1 we compare women's and men's share in the total sample of adults to their share in the sample of owners. We define ownership here to include those reporting a non-zero monetary value on either the asset or the debt in question.[7] Women's share in the adult population is 53.52% (with men's accounting for the other 46.48%). Compared with this share, women are neither under- nor over-represented among all asset owners or all debt owners as is evident from the rows showing total assets (53.49%) and total debts (52.51%). This is because adult men and women are equally likely to report at least one asset or debt holding with a non-zero value. Overall, women's share of non-zero net worth holders is 53.54% as only 3.06% of adult men and 2.99% of adult women have zero net worth. If we exclude those with a negative net worth value (so those whose total debts outweighed their total assets), the share is largely unchanged at 53.66% (also shown in Table 1). This is because very few people have a negative net worth and there is little difference between men and women in recording a negative net worth value (4.37% of adult men and 3.80% of adult women).

However, men and women own *different types* of assets and debts, as the more detailed break-down in Table 1 shows. Women's share of those owning real estate (51.75%) and household possessions (53.49%) is very close to their share in the population (53.52%), probably because compared with the other asset classes, housing and its contents are required by all individuals to live, and these assets are sometimes jointly owned (especially in married-couple households). In contrast, women are under-represented among those with business (38.73%), vehicle (38.75%), retirement (42.28%) and financial assets (48.32%). It is expected that women would be less likely to own vehicle assets, as women are less likely to drive and more likely to take public transport than men in South Africa (Casale, 2012). Their under-representation in business and retirement assets is related to their lower participation in the labour market, both in paid employment and in business ownership, and particularly in the formal sector (Casale et al., 2021).

Women's under-representation in financial assets is perhaps less severe than expected. This is because the most commonly-held asset in this category is a bank account with a positive balance and there is a relatively small difference between women and men in their likelihood of having a non-zero balance on a bank account. Roughly 70% of adult men and 62% of adult women report having a bank account and, among those with a bank account, 72% of men and 65% of women report a non-zero balance on that account. Instead, only 440,000 individuals (weighted population estimate from NIDS) or 1.4% of the adult population report owning unit trusts, shares or stocks (the other assets in the financial category), and the relative gender difference is larger, with 1.7% of adult men reporting ownership of such assets compared with 1.1% of women. Put another way, women make up only 43.67% of the owners of unit trusts, stocks or shares (similar to the percentage of women who own retirement assets).

In terms of debt holdings, women are under-represented among holders of real estate (43.55%) and vehicle debt (40.83%), their share of holders of financial debt (53.17%) is similar to their share in the adult population, while they are over-represented among those with business debt (74.32%). Given the small sample size of those reporting business debt, this figure should be viewed with caution though.

The picture changes quite substantially when the *monetary value* of the asset and debt holdings are analysed. Table 2 shows women's and men's share in the total Rand value of assets and debt. Now, women are under-represented in total net worth (42.97%), in total assets (42.63%), in total debts

[7]For example, there are substantial number of adults who report having a bank account with a zero balance (4275 out of the 12,285 individuals who report having a bank account); hence, their financial assets are recorded as zero. This is highly plausible in a country where many people are living below the poverty line and would withdraw the full amount of their cash grants or wages as soon as they are received. Such individuals are excluded from the definition of financial asset owners, as only those with a positive balance can be considered as having some savings or an accumulated cash reserve. Similarly, there are a group of individuals (1139 out of 21,598 individuals in the full sample) who reported that if they sold off their share of everything they own inside the house they live in (excluding any vehicles and the house itself), they would get zero.

TABLE 1 Share of owners who are women and men (excluding zeroes).

	n unweighted	Women (%)	*n* unweighted	Men (%)	Total (%)
Total adult population (≥18 years)	12,928	53.52	8670	46.48	100
Total assets	12,456	53.49	8321	46.51	100
Real estate	3447	51.75	2219	48.25	100
Business	204	38.73	253	61.27	100
Vehicle	964	38.75	1466	61.25	100
Financial	4298	48.32	3677	51.68	100
Retirement	560	42.28	714	57.72	100
Possessions	12,265	53.49	8194	46.51	100
Total debt	4032	52.51	2705	47.49	100
Real estate	259	43.55	320	56.45	100
Business	24	74.32	12	25.68	100
Vehicle	275	40.83	373	59.17	100
Financial	3877	53.17	2519	46.83	100
Net worth (non-zero)	12,499	53.54	8340	46.46	100
Net worth (non-zero positive values only)	12,120	53.66	8030	46.33	100

Note: The sample is all adults (aged 18 and older) and the data are weighted.
Source: NIDS Wave 5 (2017).

TABLE 2 Share of wealth owned by women using Rand values (all reporters).

	n unweighted	Women (%)	*n* unweighted	Men (%)	Total (%)
Total adult population (≥18 years)	12,928	53.52	8670	46.48	100
Total assets	12,928	42.63	8670	57.37	100
Real estate	3447	44.47	2219	55.53	100
Business	204	23.70	253	76.30	100
Vehicle	964	35.11	1466	64.89	100
Financial	6922	31.53	5328	68.47	100
Retirement	560	37.71	714	62.29	100
Possessions	12,928	46.82	8670	53.18	100
Total debt	4032	39.79	2705	60.21	100
Real estate	260	40.09	321	59.91	100
Business	24	76.21	12	23.79	100
Vehicle	275	38.69	373	61.31	100
Financial	3877	38.65	2519	61.35	100
Net worth	12,928	42.97	8670	57.03	100

Note: The sample is all adults (aged 18 and older) and the data are weighted.
Source: NIDS Wave 5 (2017).

(39.79%), and in each category of asset and debt, and to a greater degree than in the shares reported in Table 1. The one exception is business debt which we do not consider reliable given the very small sample size.

Women are particularly under-represented in the ownership of business (23.70%), financial (31.53%), vehicle (35.11%) and retirement assets (37.71%) when monetary values are used. Although

they are still under-represented in ownership of real estate assets (44.47%) and household durables/possessions (46.82%), the under-representation is less extreme in these asset classes compared with the others. In terms of the monetary value of debt holdings, only 38.65%, 38.69% and 40.09% of financial, vehicle and real estate debts, respectively, are held by women, again lower than the shares reported in Table 1. In other words, the gender gap in the monetary value of debt is larger than the gap in access to loans or credit, either because relative to men, women are able to afford less debt and apply for less, or because they are granted less.

The analysis above highlights the importance of capturing market values of assets and debts *in addition to* information on the prevalence or incidence of ownership. As found in other work on the gender gap in developing countries (Doss et al., 2011, 2014), women may own similar numbers of assets to men, but the assets held by women and men are often concentrated in different categories, and even within category, women's assets may be worth less than men's. In summary, although women in South Africa account for 53.52% of the adult population and 53.54% of non-zero net worth holders, they only hold 42.97% of the total reported monetary wealth or net worth of adults in NIDS.

3.2 | Composition of total assets and debt by gender

It is also interesting to look at how women's and men's total assets and debt are distributed across the classes. Table 3 shows in which classes women and men hold their assets and in which classes they have incurred debt. Both women and men hold most of their assets (in Rand value) in real estate and household possessions/durables, but women hold slightly more of their total assets in these two categories than men. For women, 64.60% of their total assets by value are held in real estate and another 19.76% is made up of household possessions. For men, the corresponding values are 56.25% and 17.42%.

Men's assets are more diversified, with 15.51% of their total assets held in retirement assets, 5.69% in vehicle assets, 2.85% in financial assets and 2.28% in business assets. For women, these percentages are all lower with 9.95% of their total assets in retirement assets, 3.17% in vehicle assets, 1.62% in financial assets and 0.89% in business assets.

As expected given the asset holdings, most of women's and men's debt is held in real estate debt and financial debt (comprising all loans, store card and credit card debt, and bills in arrears), with much smaller shares in vehicle and business debt. The total debt held by women is comprised of 61.56% real

TABLE 3 The distribution of assets and debt across classes by gender (by Rand value).

	n unweighted	Women (%)	*n* unweighted	Men (%)
Real estate	3447	64.60	2219	56.25
Business	204	0.89	253	2.28
Vehicle	964	3.17	1466	5.69
Financial	6922	1.62	5328	2.85
Retirement	560	9.95	714	15.51
Possessions	12,928	19.76	8670	17.42
Total assets	12,928	100	8670	100
Real estate	260	61.56	321	64.18
Business	24	0.86	12	0.29
Vehicle	275	14.61	373	15.85
Financial	3877	22.97	2519	19.68
Total debt	4032	100	2705	100

Note: The sample is all adults (aged 18 and older) and the data are weighted.
Source: NIDS Wave 5 (2017).

estate debt, 22.97% financial debt, 14.61% vehicle debt and 0.86% business debt. Men's total debt is composed of 64.18% real estate debt, 19.68% financial debt, 15.85% vehicle debt and 0.29% business debt.

3.3 | The gender wealth gap at the mean and across the distribution

In this section, we calculate the gender wealth gap at the mean and across the distribution of wealth. Table 4 shows the mean, minimum and maximum values of total net worth and its components. We also display the gender gap at the mean in percentage terms as this is the way gender gaps are most commonly quoted for earnings or wages.

We find a substantial gender wealth gap in our data at the mean, much greater than the wage gap. At the mean, the ratio of female-to-male net worth is 0.654 (R239,304/R365,680), amounting to a gender wealth gap of 34.6%.[8] The gender earnings gap in NIDS 2017 for the sample of employed adults (aged 18 years and older) is 24.2%. If we look at the components of net worth, we see gender gaps in favour of men across all asset categories, but with a particularly large and significant mean gap for financial assets of 50.7%. Men also hold more debt than women, with the largest mean gap for financial debt at 44.5%. Furthermore, there is a much wider distribution of net worth values among men than among women, with men's net worth ranging from −R11,600,000 to R97,513,408 and women's ranging from −R1,577,000 to R58,280,020.

Given how stretched these distributions are, it is also useful to look at the gender gap across the quantiles of the net worth distribution. The red horizontal line in Figure 1 shows the mean gender wealth gap and the blue line shows the gender gap at various wealth quantiles (in percentage terms). At the bottom end of the distribution of net worth, the gap is substantial (in the region of 40%), because men hold more negative net worth (or debt) than women. Thereafter, there is very little gap between men and women up until roughly the median. This is because in a country like South Africa with high poverty and inequality, a large part of the population, whether male or female, has very low net worth. The median net worth value for women is R18,780, and for men, it is R20,000, amounting to a median gender gap of 6%. Thereafter, the gender gap in net worth increases until it reaches a peak of 52% at the 99th percentile.

4 | REFLECTIONS ON DATA QUALITY

Although 'best practice' principles were largely applied in the collection of individual wealth data in NIDS, no data on wealth will be perfect. As with income data, wealth data will be affected by measurement error and non-response. Given the sensitive nature of the information, individuals may be reluctant to disclose their assets and debts. Also, they may not know the current value of their assets and debts, or how to value certain items accurately, especially in rural areas where markets may not be well-established (Deere & Doss, 2006).

There are a number of reasons why these problems are likely to be minimised in NIDS. In their NIDS discussion paper on the wealth data, Daniels and Khan (2019) make the important point that 'NIDS has built up high levels of trust with respondents in the survey due to repeated interactions across Waves 1–5, which improves expected data quality'. In addition, they used a rigorous process to identify and rectify outliers, including a multivariate outlier detection algorithm, after which respondents were followed up by telephone to verify their answers. Although attrition from the panel over time resulted in an under-representation of high-income and wealthy individuals, Wave 5 included a top-up sample to

[8]It is worth noting that the gap does not change much when removing either the negative net worth values or the zeroes, given the relatively low percentages of men and women in these categories. Excluding the negative net worth values leads to the mean gender gap in net worth changing from 34.56% to 35.11%, and excluding the zeroes results in an even more marginal change to 34.55%. Finally, if we use the pre-imputation values for individual net worth, we find a very similar mean gap of 34.80%.

TABLE 4 Mean, minimum and maximum values of net worth.

	Women				Men				Mean gender gap[a]
	N	Mean	Min	Max	*N*	Mean	Min	Max	%
Total assets	12,928	265,952	0	59,585,000	8669	412,118	0	98,137,408	35.47***
Real estate	3447	592,390	9	56,000,000	2219	793,162	10	98,000,000	25.31
Business	204	138,528	100	3,000,000	253	281,906	90	10,000,000	50.86
Vehicle	964	103,950	45	1,500,000	1466	121,508	20	8,530,000	14.45**
Financial	4298	11,936	1	3,200,000	3676	24,231	2	16,093,000	50.74***
Retirement	560	561,606	55	30,000,000	714	679,585	56	25,000,000	17.36
Possessions	12,265	50,920	8	35,000,000	8194	66,522	7	10,000,000	23.45***
Total debt	4032	75,735	1	10,005,300	2704	126,755	3	15,124,141	40.25**
Real estate	259	542,296	500	10,000,300	320	625,214	500	15,000,000	13.26
Business	24	82,079	300	700,000	12	74,166	2000	550,000	10.67
Vehicle	275	121,175	550	600,000	373	132,486	100	1,000,000	8.53
Financial	3877	13,519	1	1,757,093	2518	24,363	3	2,585,000	44.51***
Net worth	12,928	239,304	−1,577,000	58,280,020	8669	365,680	−11,600,000	97,513,408	34.56**

Note: The sample is all adults (aged 18 and older) and the data are weighted. Only non-zero values for the asset and debt sub-classes were used in the calculation.

[a]The gender gap is calculated as 1 − (mean value women/mean value men).

***Statistically significant differences between men and women at the 1% level.

**Statistically significant differences between men and women at the 5% level.

*Statistically significant differences between men and women at the 10% level.

Source: NIDS Wave 5 (2017).

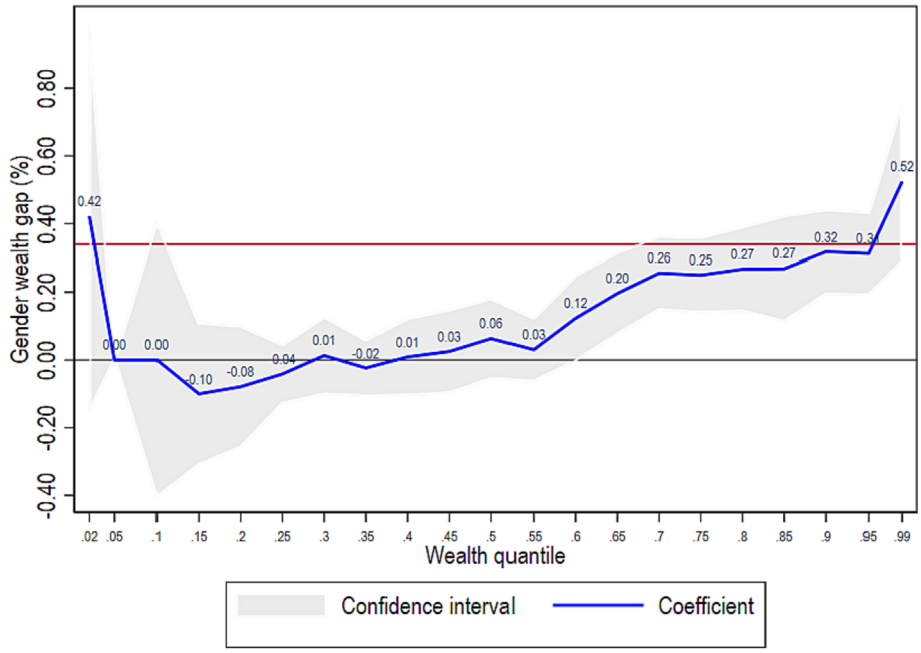

FIGURE 1 The gender wealth gap across the wealth distribution (%). Source: NIDS Wave 5 (2017). Note: the sample is all adults (aged 18 years and older), and the data are weighted. The red horizontal line represents the mean gender wealth gap. The gender gap was estimated using quantile regression without controls (i.e. unconditional quantiles) and the 95% confidence intervals were estimated by testing whether the non-linear combination 1 − (female value/male value) is different from zero (using the 'nlcom' command in Stata). [Color figure can be viewed at wileyonlinelibrary.com]

help address this problem. This resulted in much higher estimates of income and wealth compared with when the top-up sample was excluded (Brophy et al., 2018). Finally, given that most of the information is collected from the individuals themselves in NIDS, and not through proxy reporting, misreporting and item non-response would be expected to be attenuated.

Nonetheless, concerns remain. In their paper, Daniels and Khan (2019) compare the estimates of assets and debts in the NIDS 2017 data with estimates from the national balance sheet from the South African Reserve Bank (SARB). Whereas household survey data are well-known to deviate from national accounts data, including because the latter uses tax-based data to estimate their totals and excludes certain assets such as household possessions or durables, the comparison is nonetheless instructive. The total stock of wealth from the two different sources is very similar, with NIDS doing a reasonable job of collecting information on non-financial assets and debt (Daniels & Khan, 2019). However, financial wealth is significantly underestimated compared with the national accounts, a well-documented problem in household surveys (Sierminska et al., 2010). Given that financial assets are held more often by men than women, if anything, our analysis underestimates the gender gap in total wealth.

A limitation of the individual-level data on assets in NIDS 2017 is that it excludes information on livestock ownership. Information was collected from the household respondent on the value of all livestock in the 'household's possession', and not on who in the household owns it. This is unlikely to affect the results on the gender wealth gap substantively as only 5.2% of adults live in households with livestock assets. Among those with livestock assets, the mean value is R41,426 in the households that women live in and R43,809 in the households that men live in. Although only indicative, this suggests that the exclusion of livestock assets from individual net worth, if anything, would result in an underestimation of the gender gap in total wealth. Findings from the Gender Asset Gap project support this view. In Karnataka, India, the majority of livestock was reported to be owned by all household members; in Ghana, the

majority of livestock was owned by individual men; and in Ecuador, a larger percentage of the large stock was owned by individual men while a larger share of the small stock and poultry (which would be worth less) was owned by individual women (Doss et al., 2011, 2014).

There are also questions around what ownership means in certain developing-country contexts, where, for instance, land ownership is governed by different property rights regimes. In the NIDS household questionnaire, the household respondent is asked not only about whether anyone in the household owns the dwelling they live in (and who) but also whether they own the *land* the dwelling place is on, and in what capacity, either 'Private ownership with the right to sell' or 'Secure rights on tribal land allocated by the traditional leader'. Roughly 65.3% of adults live in households where someone in the household owns the dwelling place. Of these, 67.1% live in households where a household member also owns the land the dwelling is on.[9] And of these, 84.8% live in households where the land is privately owned with the right to sell and the other 15.2% live in households where the dwelling place is on tribal land with secure rights. A greater percentage of women than men (16.6% vs. 13.6%) live in households where ownership is through rights granted by the tribal authority compared with private ownership. This series of questions in NIDS highlights not only the complexity of the housing market in South Africa, but it also raises important questions around the meaning of 'ownership' when one has use rights but not sales rights (and indeed what 'market value' means in this context).

This is an issue discussed at length in the literature (Deere & Doss, 2006; Doss et al., 2020; Kilic & Moylan 2016). In most surveys, asset ownership is self-reported or reported on behalf of others, and is therefore based on *perceptions* of ownership. Perceptions of ownership may differ from documented or legal ownership (i.e. whose name appears on the title deed, for example). Furthermore, neither perceived nor documented ownership may perfectly map onto the various 'rights' usually conferred by private ownership. In some developing countries, for example, owners may have *use* rights on a piece of land, but they may not have the right to sell or bequeath the asset.

This may be particularly important in the study of gender gaps in wealth or asset ownership. For instance, a woman may be recorded as the sole or joint owner of a property or piece of land (as her name is on the title deed), but her husband may retain control of use and sales rights. And on divorce or separation, the wife may not have a say in how the property is managed, or share equally in the proceeds from the disposal of jointly-owned property. Very interesting work by Jacobs and Kes (2015) on Uganda and South Africa, in which they collected their own data from a small sample of households on the full spectrum of rights related to asset ownership, shows that joint ownership among couples does not necessarily translate into equal control over or benefit from jointly-owned property. Although Doss et al. (2020) argue that surveys collecting information on assets should also investigate these different types of rights and whether they perfectly align with ownership, such data collection is rare given the time and cost involved. A more nuanced approach to data collection on asset ownership might be better-suited to smaller purpose-driven surveys or qualitative work.

5 | CONCLUDING DISCUSSION

In this short piece, our objective was to interrogate the individual-level data on wealth collected in NIDS 2017 with a view to describing the gendered patterns of wealth in South Africa. On the whole, we find that the individual wealth data collected in NIDS are fit for purpose and the methods of collection adhere to most of the 'best practice' principles outlined by Doss et al. (2020) who have had extensive hands-on experience collecting such data in developing countries. While the data on wealth in NIDS are

[9]This implies that a number of people live in households where ownership of the dwelling place is reported but not the land (neither privately nor through rights allocated by the tribal authority). When the type of dwelling place is investigated, it appears to be a mix of formal brick structures, traditional huts, backyard dwellings and informal shacks on farmland or in informal settlements. This highlights the complexity of the housing market in South Africa which includes people living in RDP houses that cannot be sold or rented before 8 years have passed, people living in backyard shacks they might consider to be their own even if on a relative's property, and people living in huts or informal shacks on municipal or private land.

not perfect (as no data are), they produce a sensible picture of the gendered distribution of wealth in South Africa, much in line with our expectations and research in other countries.

We find men and women in South Africa hold different types of assets and debt, and women's assets and debts are of a lower value than men's. Although women account for 54% of the adult population, they hold only 43% of total assets, 40% of total debts and 43% of total net worth in monetary terms. While women hold a substantially lower share in all the asset and debt sub-categories recorded, they are particularly under-represented in the ownership of business (24%), financial (32%), vehicle (35%) and retirement (38%) assets, likely reflecting their less favourable position in the labour market. When looking at the composition of women's and men's total assets, we also see that women's assets are less diversified than men's. Women hold a greater share of their assets in real estate and household possessions, assets that are more likely to be owned jointly and that may be harder to liquidate in times of crisis or on dissolution of the household. Men, in contrast, hold a greater share of their wealth in financial, vehicle and retirement assets, placing them in a more secure position in times of difficulty or on retirement or divorce.

We find a substantial gender net worth gap at the mean of 35%, greater than the gender earnings gap, which was 24% in the same year. When looking at the gap across the distribution, we find a distinct U-shaped pattern. At the bottom of the distribution, the gap is substantial in the region of 40%, because men hold more negative net worth (or debt) than women, it tends to zero until roughly the median (as a large part of the population, whether male or female, has very low net worth), and then it rises thereafter reaching a peak of 52% at the top end of the distribution. These gender gaps are likely to be underestimated however, as financial assets are under-reported in NIDS (a common problem with household surveys) and livestock wealth is not included, both categories that have been found to favour men. In addition, the self-reported/perceived ownership of assets collected in NIDS may not fully align with the various rights and benefits associated with private ownership, an issue which may be particularly relevant to women who own assets jointly with their husband or who live on tribal council land.

Despite the challenges in collecting high-quality individual-level data on wealth, household surveys in South Africa should routinely collect such data in addition to data on earnings or income. Indeed, as Deere et al. (2012) point out, income or expenditure represent a snapshot in time while an assets-based approach to measuring wellbeing provides a more stable and holistic picture. Not only do assets have important use value (e.g. housing) and can generate and help diversify income (e.g. rent from real estate), but they also act as collateral to be able to exploit further economic opportunities. Furthermore, they are an important store of value and can be converted to cash in times of emergency or crisis, they can be used in retirement, or they can be passed on to the next generation.

In addition to the benefits of wealth highlighted above, understanding individual wealth ownership is important for gender analysis as higher individual wealth holdings mean that women will be less vulnerable on dissolution of the household through divorce or separation. Individual asset ownership has also been shown to improve social status and bargaining power among women, both in the household and in the community (Deere & Doss, 2006).

Although this paper provided a useful starting point in the exploration and interrogation of the individual data on wealth in South Africa, much work remains. Ongoing research involves analysing inequality in net worth among women and men in different types of households, examining within-couple inequality and, importantly, trying to unpack the sources of this gender inequality. Understanding the underlying constraints to women accumulating as much wealth as men over their lifetime is key to being able to reduce this this form of gender inequality.

CONFLICT OF INTEREST STATEMENT

Authors have no conflict of interest to declare.

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