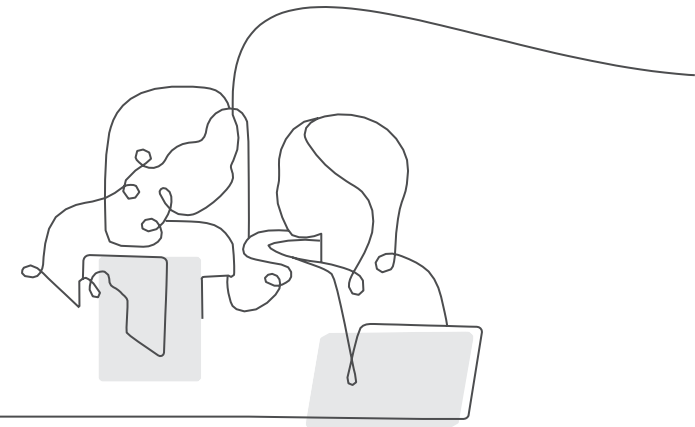# TEACHER DEMOGRAPHIC DIVIDEND
Provincial Spotlight Series

Nic Spaull   (Bill & Melinda Gates Foundation)
Poppie Ntaka   (Stellenbosch University)

6 September 2023
STIAS, Stellenbosch University

TEACHER DEMOGRAPHIC DIVIDEND

Allan & Gill Gray PHILANTHROPIES

FEM

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT

RESEP Research on Socio-Economic Policy

'2-pagers'

1

How many teachers will retire by 2030?
Servaas van der Berg & Martin Gustafsson (10 Nov 2022)

Teacher Demographic Dividend.

2

Teacher Production, Class sizes & Learner population Growth
How many teachers will be required for South Africa to maintain or reduce LE ratios given increases in learner population numbers?

Nic Spaull (10 Nov 2022)

Teacher Demographic Dividend.

3

To what extent are provinces freezing HOD and Deputy Principal posts to cope with budgetary pressures?
Nic Spaull & Poppie Ntaka (10 November 2022)

Teacher Demographic Dividend.

4

Are provinces hiring the additional teachers that universities produce?
Poppie Ntaka (10 Nov 2022)

Teacher Demographic Dividend.

5

Which universities produce the most teachers who enter public schools?
Nic Spaull & Poppie Ntaka (10 Nov 2022)

Teacher Demographic Dividend.

6

How many teachers are universities producing?
Bianca Böhmer and Irene Pampallis (10 Nov 2022)

Teacher Demographic Dividend.

7

What do teachers earn?
Irene Pampallis (10 Nov 2022)

Teacher Demographic Dividend.

8

Where do teachers fall relative to others in the labour market?
Debra Shepherd & Nic Spaull (10 Nov 2022)

Teacher Demographic Dividend.

9

What are the matric marks of those entering ITE programmes?
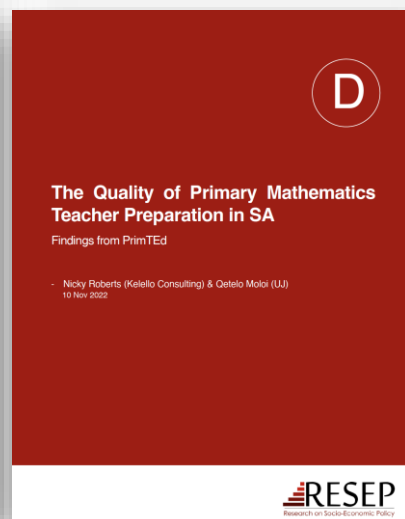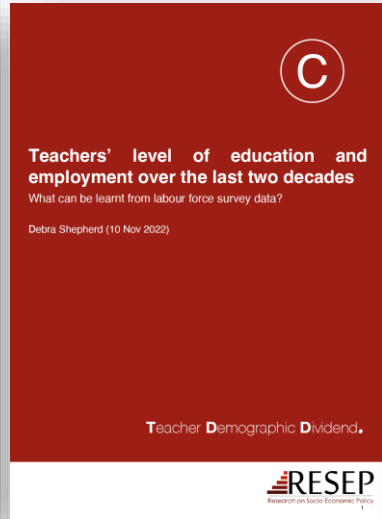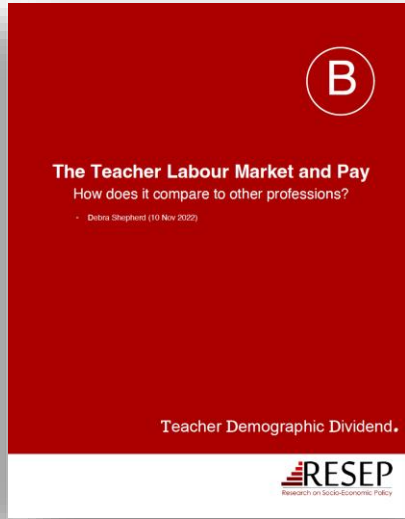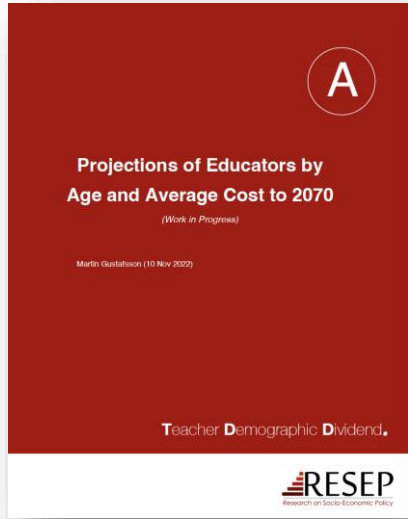Irene Pampallis (10 Nov 2022)

Teacher Demographic Dividend.

10

Teacher knowledge and teacher age: What are the levels of in-service teacher knowledge?
Nic Spaull & Peter Courtney (10 Nov 2022)

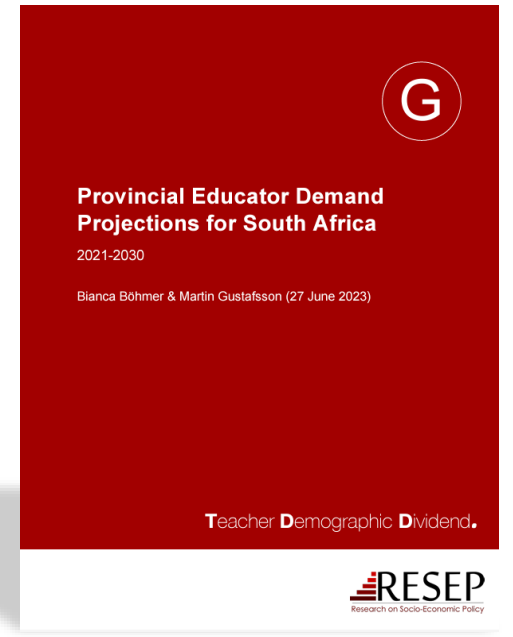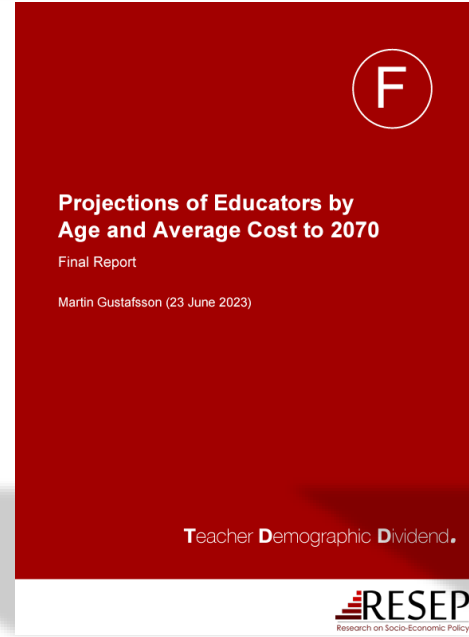Teacher Demographic Dividend.
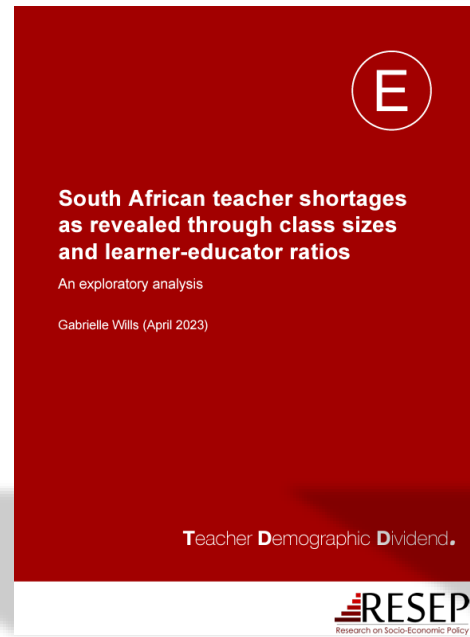
A Projections of Educators by Age and Average Cost to 2070
(Work in Progress)
Martin Gustafsson (10 Nov 2022)
Teacher Demographic Dividend.
RESEP

B The Teacher Labour Market and Pay
How does it compare to other professions?
- Debra Shepherd (10 Nov 2022)
Teacher Demographic Dividend.
RESEP

C Teachers' level of education and employment over the last two decades
What can be learnt from labour force survey data?
Debra Shepherd (10 Nov 2022)
Teacher Demographic Dividend.
RESEP

D The Quality of Primary Mathematics Teacher Preparation in SA
Findings from PrimTEd
- Nicky Roberts (Kelello Consulting) & Qetelo Moloi (UJ)
  10 Nov 2022
Teacher Demographic Dividend.
RESEP

7 Longer Reports

TDD Tango

E South African teacher shortages as revealed through class sizes and learner-educator ratios
An exploratory analysis
Gabrielle Wills (April 2023)
Teacher Demographic Dividend.
RESEP

F Projections of Educators by Age and Average Cost to 2070
Final Report
Martin Gustafsson (23 June 2023)
Teacher Demographic Dividend.
RESEP

G Provincial Educator Demand Projections for South Africa
2021-2030
Bianca Böhmer & Martin Gustafsson (27 June 2023)
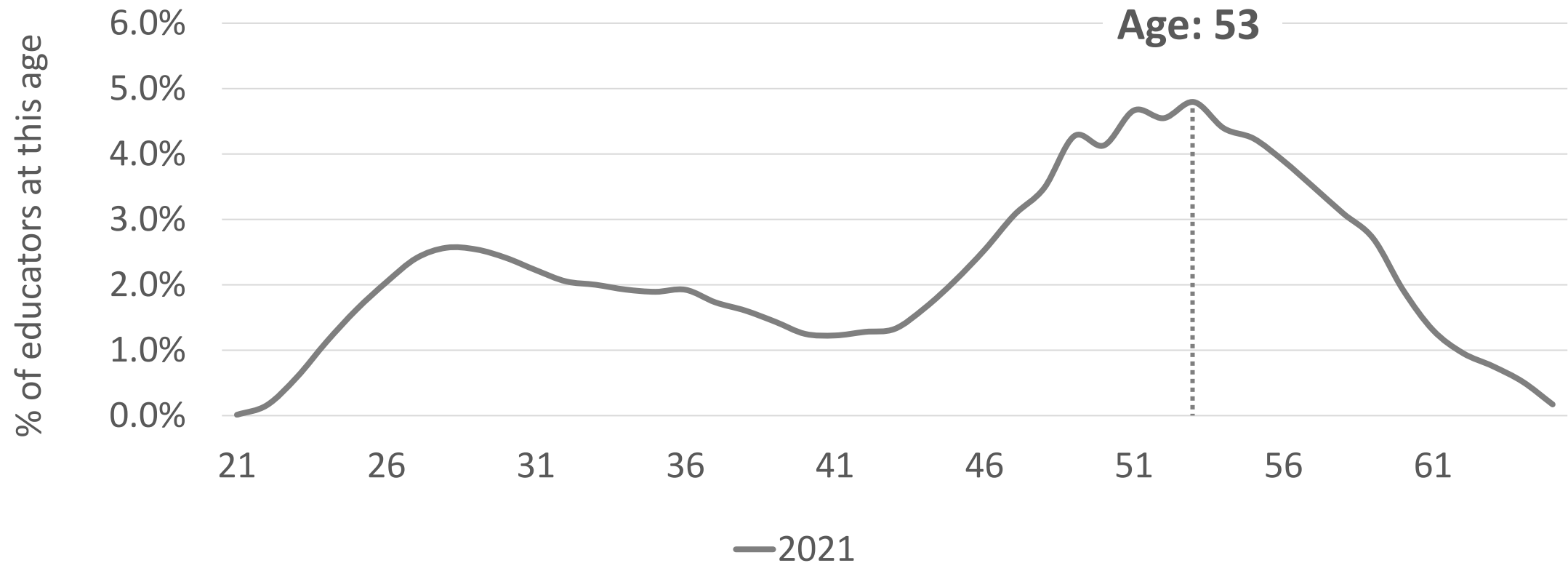Teacher Demographic Dividend.
RESEP

Overview

1. **Teacher demographics:** How many teachers are about to retire?

2. **Enrolment and retirement**: Why do we need to hire more teachers?

3. **Tradeoffs:** Headcount vs Salaries – what have we done?

4. **Provincial differences:** Which provinces will be affected and how?

5. **Provincial Engagements**: How have these findings been disseminated?

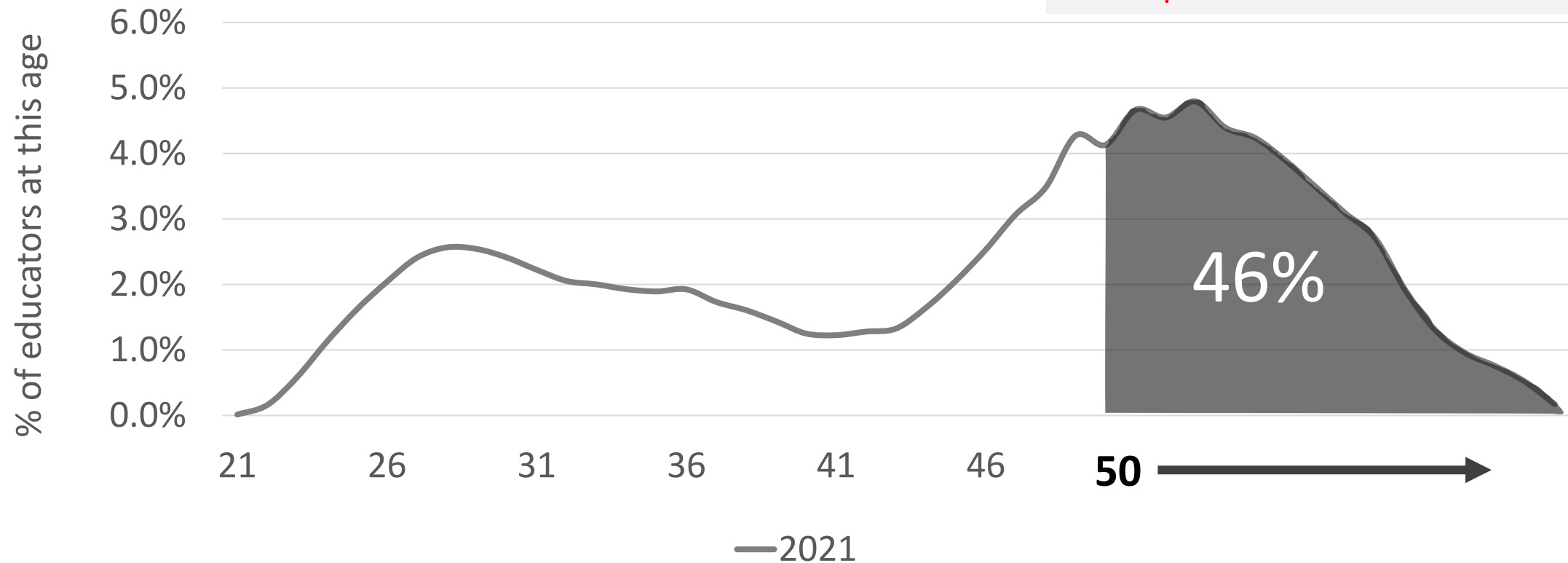# Teacher demographics: How many teachers are about to retire?

Teacher demographics: How many teachers are about to retire?

As teachers retire, we will need to replace them just to maintain status quo class sizes
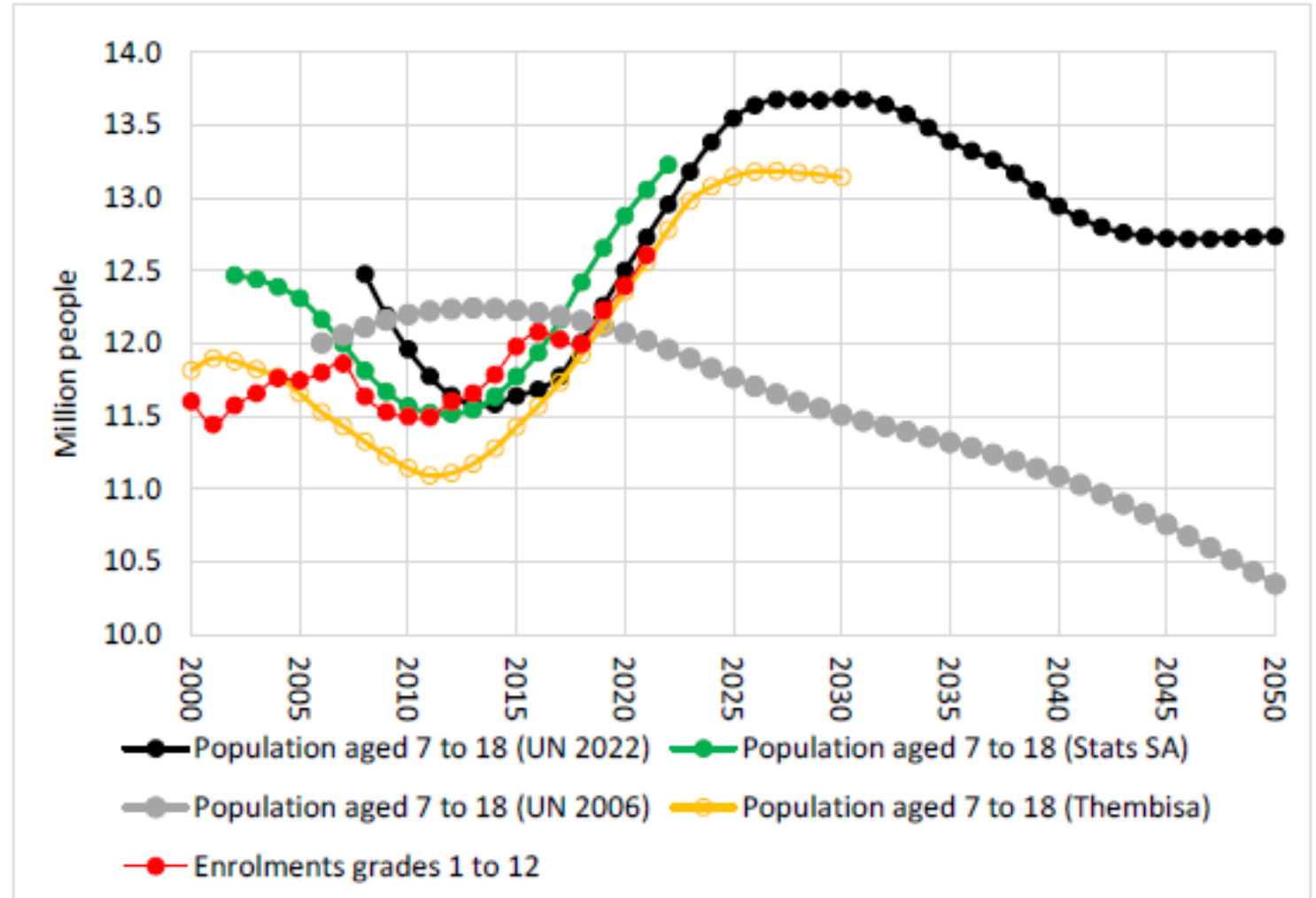

46%

2021

# All sources agree:

Child-age population is expected to expand

Source: Figure 7 in the report Projections of Educators by Age and Average Cost to 2070 by Martin Gustafsson (Jun 2023)
Notes: he source for population is the World Population Prospects of 2006 and 2022 of the United Nations, available through https://population.un.org. For projections, the UN's 'medium variant' was used. For Stats SA, values in the 2022 MYPE were used. For the UN 2022 series figures for ages 7 to 18 were derived using the UN data and Stats SA's Sprague tool to calculate single age values, and a simple linear trend to derive years between the every fifth year of the UN data. Stats SA's Sprague tool was last released online together with the 2016 Mid-Year Population Estimates files. The source for the enrolment values is published reports of the national education department. These values include both public and independent ordinary schools. Thembisa projections were obtained from the Thembisa website (https://www.thembisa.org) in October 2022, and were produced in 2022.

Learner population growth: Class sizes & enrolment growth
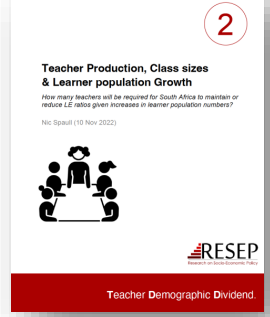
School-age population projected to increase by 6%

- Population of 7-18 year-olds projected to increase by 5,6% and if reduced dropout rates are also accounted for then the increase is 6,2%.

- Since 2006 historical enrolment patterns track historical population estimates well.

- The number of teachers hired (headcount) would need to **increase by 6%** by 2030 just to keep up with the learner population

- (NB national **AVERAGE** – very different by provinc)

Figure 1: School-aged population projections and actual enrolments 2000 to 2050
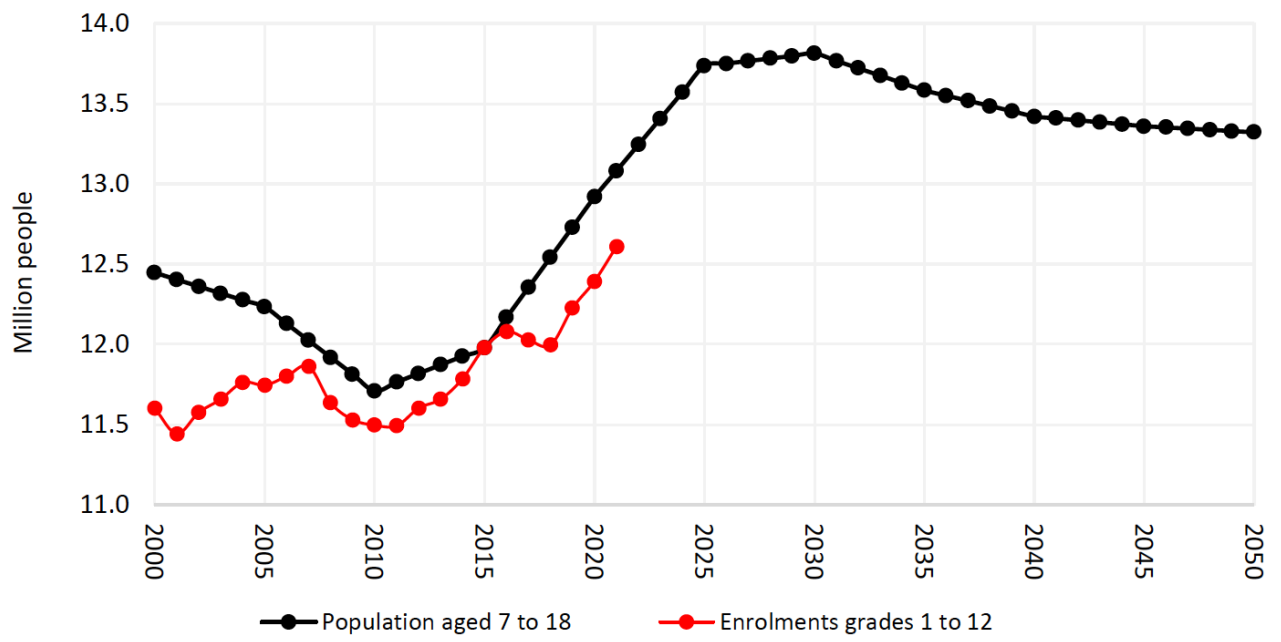
Sources: The source for population is the World Population Prospects 2019 of the United Nations, available through https://population.un.org. Figures for ages 7 to 18 were derived, using the UN data and Stats SA's Sprague tool to derive single age values and a simple linear trend to derive years between the every fifth year of the UN data. Stats SA's Sprague tool was last released online together with the 2016 Mid-year Population Estimates files. The source for the enrolment values is published reports of the national education department. These values include both public and independent ordinary schools.

Tradeoffs

For a given budget there is a trade-off between:

Headcount: How many teachers do we hire?

Salaries: How much do we pay those teachers?

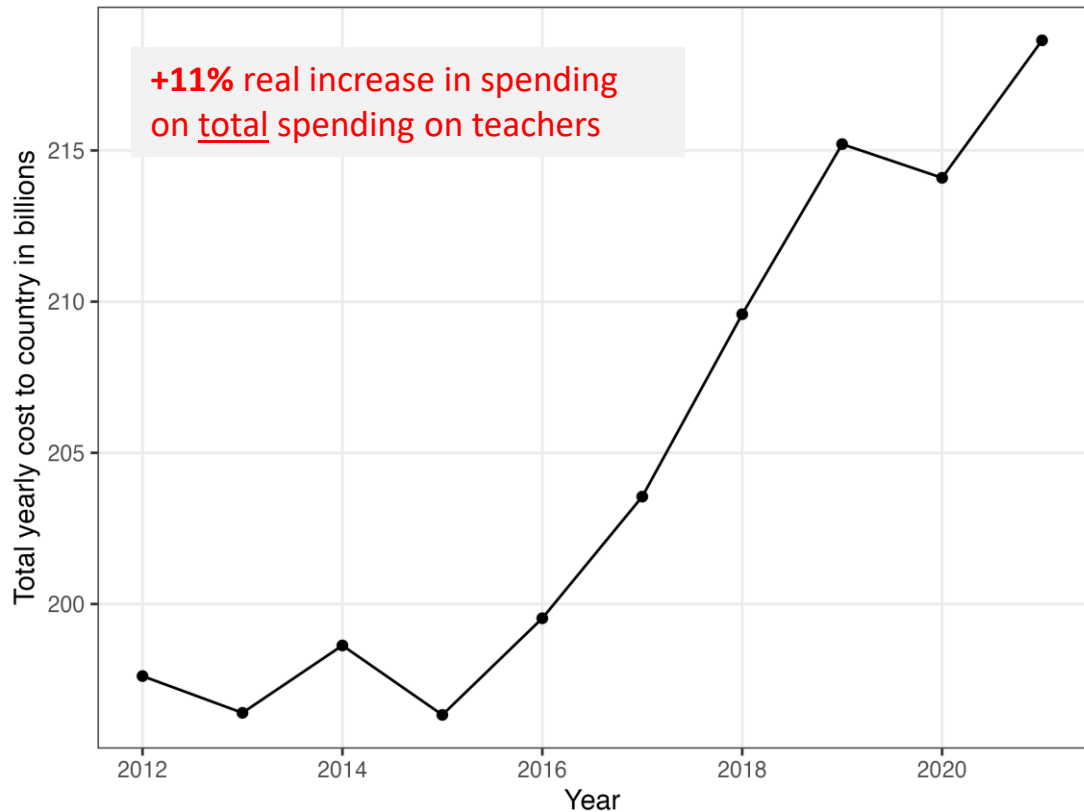If we have an extra **R10bn** to spend on teachers, do we…

↑ **Wages**

or

↑ **Headcount**

Pay existing teachers more?

Hire more teachers?

Historically, what have we done?

Wages ↑

Yearly Cost to Country of South Africa's Teachers (Inflation adjusted)

+11% real increase in spending on <u>total</u> spending on teachers

Total yearly cost to country in billions

Average Monthly Cost to Country of South Africa's Teachers

A South African teacher's monthly salary before tax and benefit deductions, adjusted for inflation (November 2021 Rands)

+13% real increase in spending <u>per teacher</u>

Average monthly cost to country
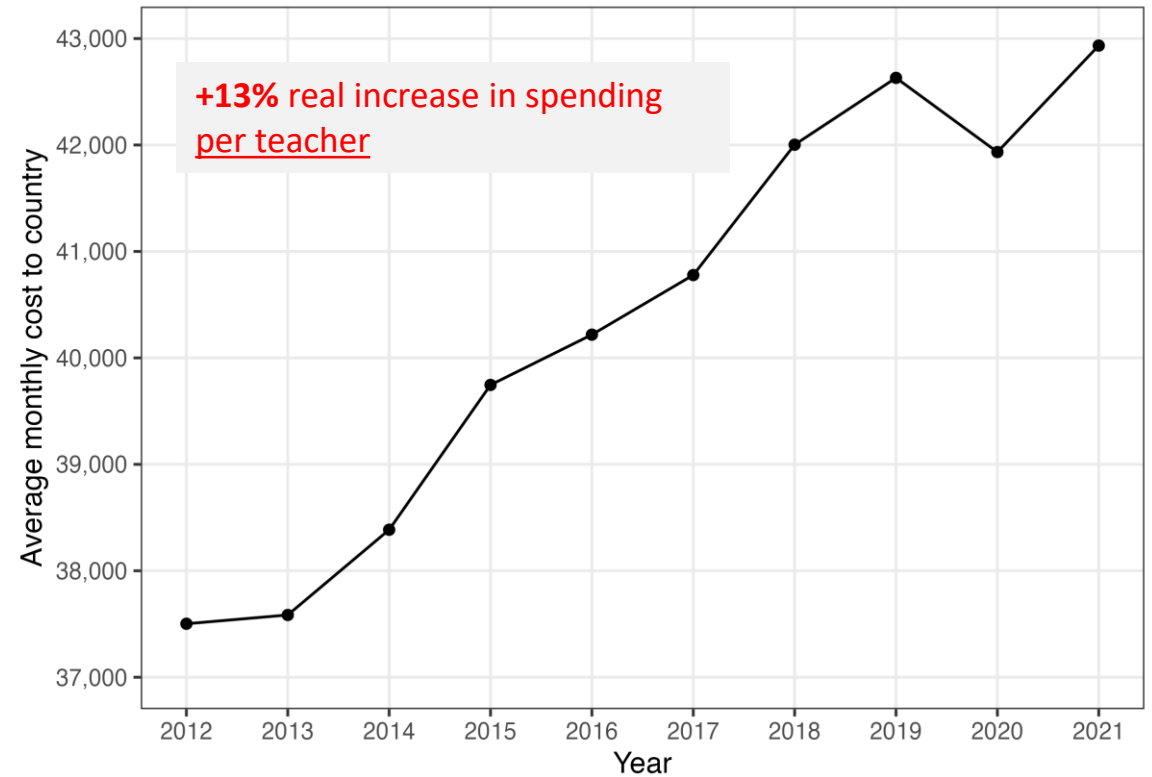
Data: PERSAL (SA Government payroll data)

Source: Peter Courtney

Data: PERSAL (SA Government payroll data)

2012
392k teachers

+3% headcount →

2021
405k teachers

(7)
What do teachers earn?
Irene Pampallis (10 Nov 2022)

RESEP
Research on Socio-Economic Policy

Teacher Demographic Dividend.

(7) What do teachers earn?

- **Teacher salaries are the largest single line item in the South African budget** (In 2022 R222bn for salaries; 3,5% of GDP).

- The average government teacher earned **R42,668 per month** in salary and benefits in **2019**

Figure 1: Average monthly teacher pay in South Africa according to 2019 government payroll data (PERSAL)

Legend:
- Medical Subsidy
- Housing subsidy
- Other benefits
- Pension
- Insurance
- Income tax
- 13th cheque
- Disposable income

Age 30 and below — R34,006
- R1,607 Medical Subsidy
- R762 Housing subsidy
- R333 Other benefits
- R4,832 Pension
- R589 Insurance
- R4,311 Income tax
- R1,619 13th cheque
- R19,953 Disposable income

Average — R42,668
- R3,262 Medical Subsidy
- R1,142 Housing subsidy
- R420 Other benefits
- R5,727 Pension
- R1,378 Insurance
- R5,744 Income tax
- R2,221 13th cheque
- R22,774 Disposable income

Age 50 and above — R47,874
- R3,770 Medical Subsidy
- R1,198 Housing subsidy
- R537 Other benefits
- R6,336 Pension
- R1,659 Insurance
- R6,815 Income tax
- R2,650 13th cheque
- R24,909 Disposable income

Source: Gustafsson & Maponya, 2020, p.5. In this figure, "teachers" includes ordinary teachers, HODs, deputy principals and principals.

What do teachers earn?

- Many average teachers don't think that they earn R43,000 a month in salary and benefits yet this is often because they underestimate the value of the benefits of their compensation package.

- This annotated salary slip shows how all the components add up to the average for a teacher with 5 years of experience.

This employee is an ordinary teacher

The notch value is equal to the basic salary x 12. It does not include any benefits.

The gross salary = the basic salary + rent allowance + housing savings.

This is the basic monthly salary.

This teacher rents a house, so they receive R900 a month as a rental subsidy. The balance of the housing allowance (R436.22) is paid into a savings fund which they can access if they buy a house later.

These lines show that the employer contributes R3094.51 towards pension and R1301 towards medical aid, in addition to the basic salary.

This is the teacher's take-home salary after all deductions have been made.

This column shows deductions from the teacher's gross salary. This teacher has deductions for income tax (R4048.33), pension (R1785.30), medical aid (R1339), SACE membership (R15), NAPTOSA union membership (R99.90), ELRC dues (R7.50), PSCBC dues (R1.32) and the GEHS housing savings scheme (R436.22).

**The annual service bonus (13th cheque) is equal to the "basic salary" line item and is paid in the employee's birthday month. This payslip does not show the service bonus because this teacher did not celebrate their birthday in May 2019.

This teacher's effective monthly pay package can be calculated by taking all pay and benefits into account, as follows:
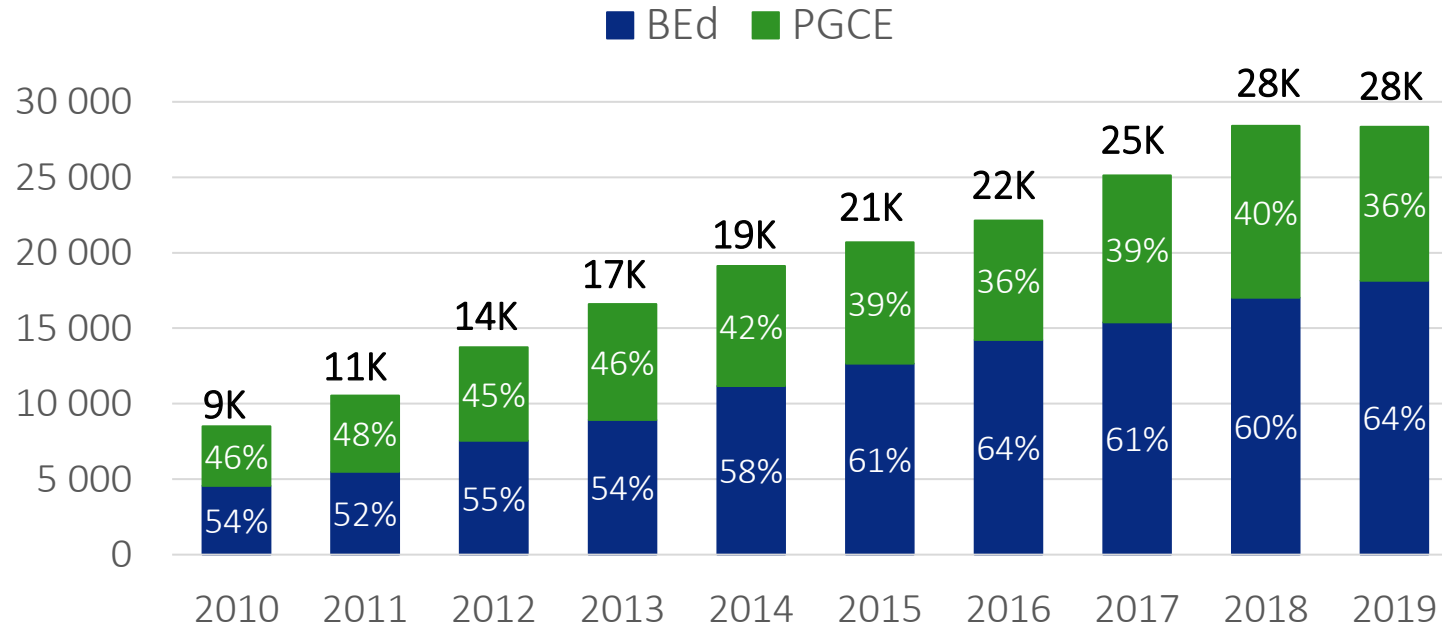
Basic salary: R23 804
Housing allowance: R900 + R436.22
Employer contribution to pension: R3094.51
Employer contribution to GEMS medical aid: R1301

Monthly subtotal: R29 535.73
x12 = R354 428.76
+13th cheque: +R23 804

Annual total: R378 232.76
Averaged per month: R31 519.40 ← Effective monthly pay package

Number of Initial Teacher Education graduates from South African universities, 2010-2019

■ BEd   ■ PGCE

Year	Total	PGCE %	BEd %
2010	9K	46%	54%
2011	11K	48%	52%
2012	14K	45%	55%
2013	17K	46%	54%
2014	19K	42%	58%
2015	21K	39%	61%
2016	22K	36%	64%
2017	25K	39%	61%
2018	28K	40%	60%
2019	28K	36%	64%

Funza Lushaka Bursary Scheme
2007

UNESCO
Teacher supply model
2012

TLDCIP
2015 - 2020

DHET
Teacher supply & demand report
2019-2020

Source: The numbers for ITE graduates are taken from the DHET annual reports from 2011/12 to 2020/21. The latest report contains numbers on 2019 graduates. Split between B.Ed and PGCE calculated using graduates information on PowerHEDA.
Notes: TLDCIP is the Teaching and Learning Development Capacity Improvement Programme of DHET funded by the EU

The task is no longer rapidly increasing teacher supply (universities have responded successfully to that challenge)

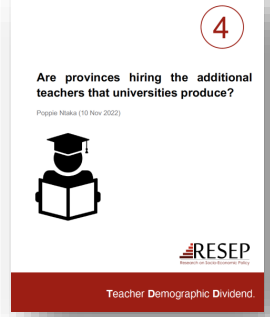Now it is increasing actual hiring (headcount)

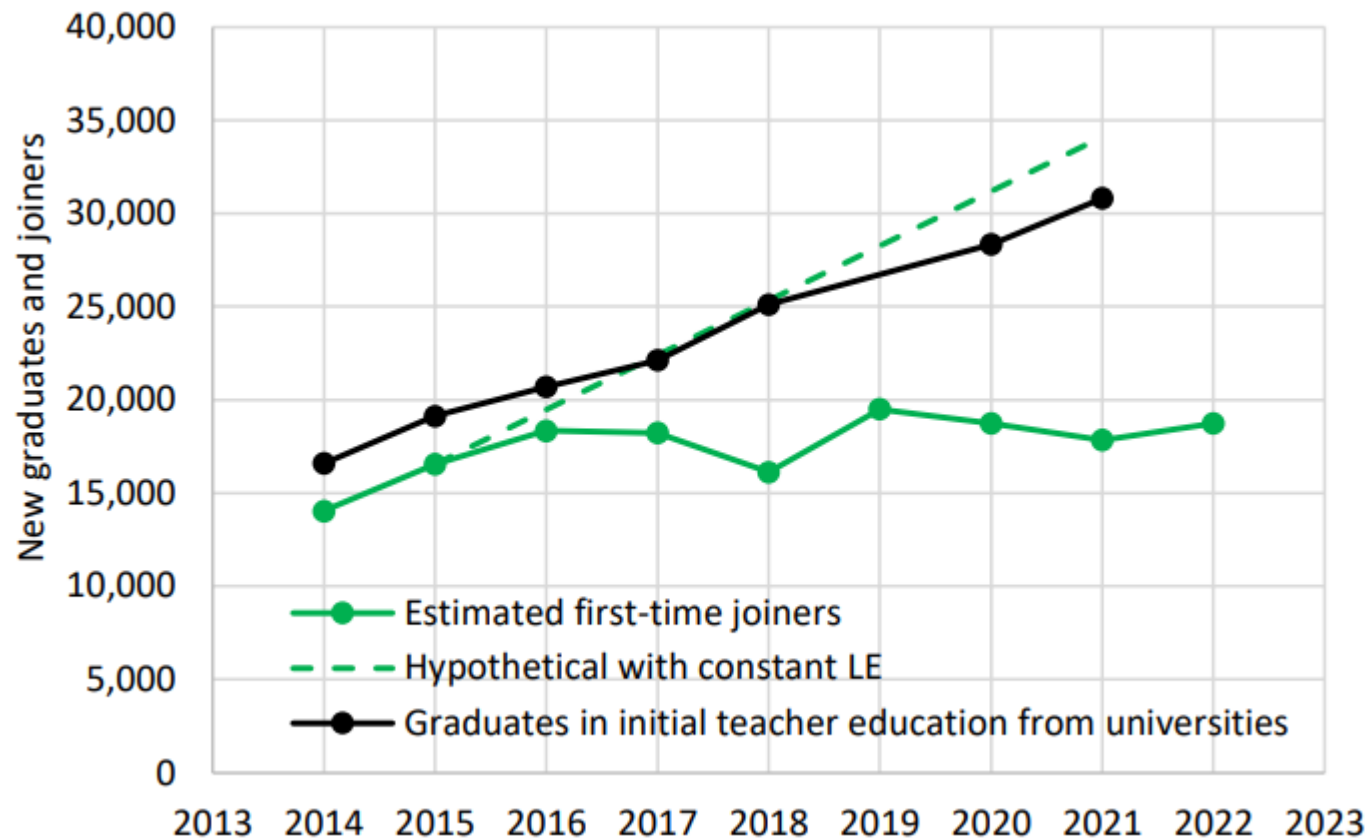# Are provinces hiring the additional teachers that universities produce?

Provinces are not hiring the teachers that universities are producing

- Important to note that not all teachers produced (ITE graduates) are employed in public schoos (young joiners). Some join private schools, others immigrate

- In 2015 **75%** of graduates produced were hired by PEDs.

- In 2021 **50%** of graduates produced were hired by PEDs

- The number of 'young joiners' entering public schools per year has remained constant at about **15,000 young joiners** per year since 2017In 2021 about **30,000 young joiners** would have been required to maintain LE ratios

- **Universities have been significantly increasing the number of teacher graduates produced** from about 20,000 in 2016 to about 28,000 in 2020 but provinces are not hiring them.

Figure 1: Teacher graduates and 'young joiners' per year 2015-2021
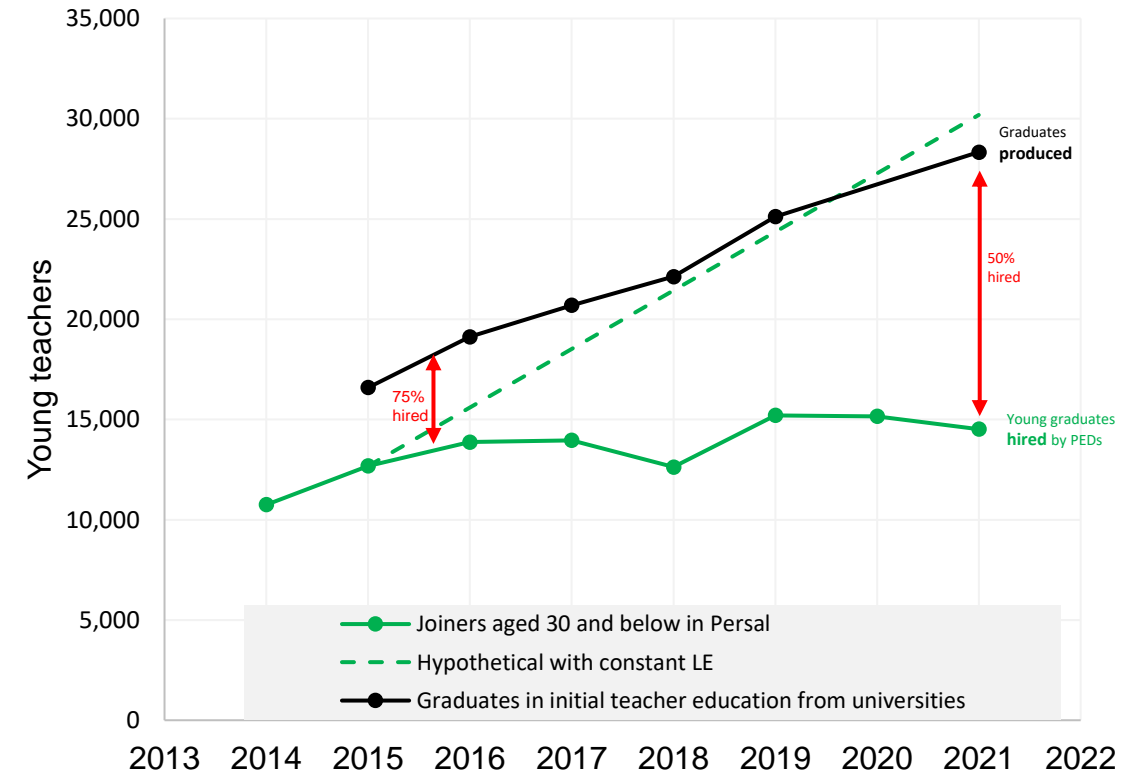
Initial teacher graduates and young Persal joiners

Source: Figure 27 in the report Projections of Educators by Age and Average Cost to 2070 by Martin Gustafsson (Jun 2023)
Notes: For graduates, source is the DHET annual reports of 2019/20 to 2021/22. To illustrate, the DHET value for 2020/21 would be plotted as the 2020 value in the graph. The annual report indicates that these are teachers who would have graduated in 2019, and it is thus assumed they would be able to take up employment in 2020. For first-time joiners, historical Persal data were processed, using methods explained in Department of Basic Education (2023a), in order to estimate values.

The graph that helped to kick off the provincial study

Selected Provincial Results

Longer Reports & Notes

The Provincial Spotlight Series/Engagements drew from the following TDD reports and notes

(E)

South African teacher shortages as revealed through class sizes and learner-educator ratios

An exploratory analysis

Gabrielle Wills (April 2023)

Teacher Demographic Dividend.

(F)

Projections of Educators by Age and Average Cost to 2070

Final Report

Martin Gustafsson (23 June 2023)

Teacher Demographic Dividend.

(G)

Provincial Educator Demand Projections for South Africa

2021-2030

Bianca Böhmer & Martin Gustafsson (27 June 2023)

Teacher Demographic Dividend.

(12)

Male Managers, Female Teachers

The South African case of gender imbalances in school leadership and management

Gabrielle Wills & Bianca Böhmer (10 July 2023)

Teacher Demographic Dividend.

Provincial enrolment trends (2012–2021)
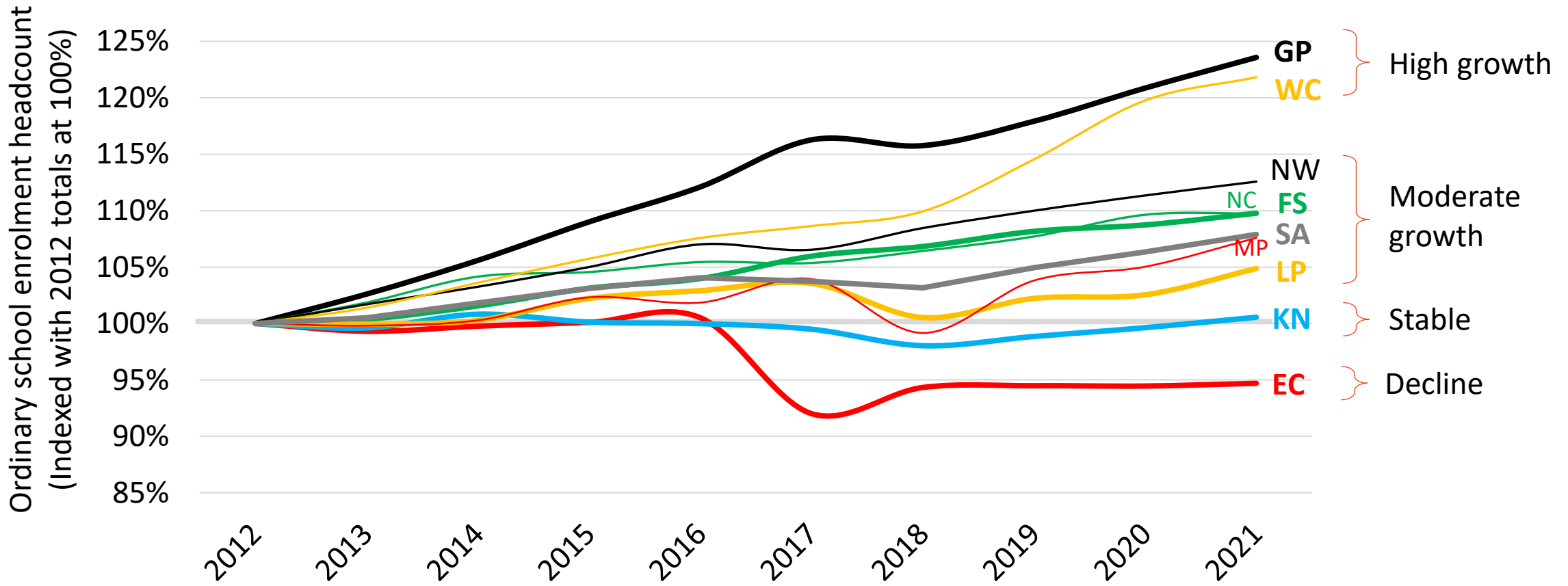
Source: Enrolment numbers taken from School Realities-EMIS (2012 – 2021) released by the DBE, using total numbers for ordinary public and independent schools.

Projected growth in 7-18yr population 2021 to 2030
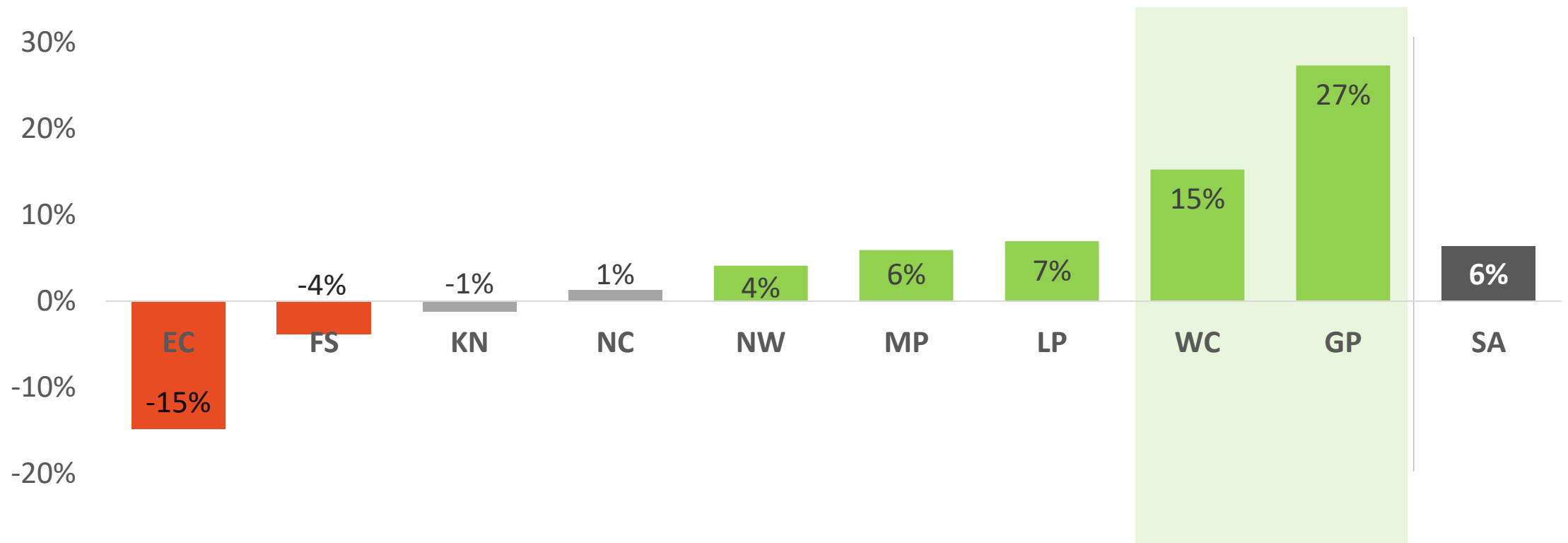
Projected population growth of children aged 7–18 between 2021 and 2030

Note: Period 2021 – 2030 is the same timeframe, nine years, as 2012 – 2021.

Source: Thembisa age-specific estimates from the model V4.5 for children aged 7-18 by province

Projected growth in 7-18yr population 2021 to 2030

Projected population growth of children aged 7–18 between 2021 and 2030

Decline

High growth

EC -15%
FS -4%
KN -1%
NC 1%
NW 4%
MP 6%
LP 7%
WC 15%
GP 27%
SA 6%

Note: Period 2021 – 2030 is the same timeframe, nine years, as 2012 – 2021.
Source: Thembisa age-specific estimates from the model V4.5 for children aged 7-18 by province

Projected growth in 7-18yr population 2021 to 2030

Projected population growth of children aged 7–18 between 2021 and 2030

	EC	FS	KN	NC	NW	MP	LP	WC	GP	SA
%	-15%	-4%	-1%	1%	4%	6%	7%	15%	27%	6%
	-237K	-33K	-26K	+4K	+37K	+65K	+105K	+198K	+682K	+795K
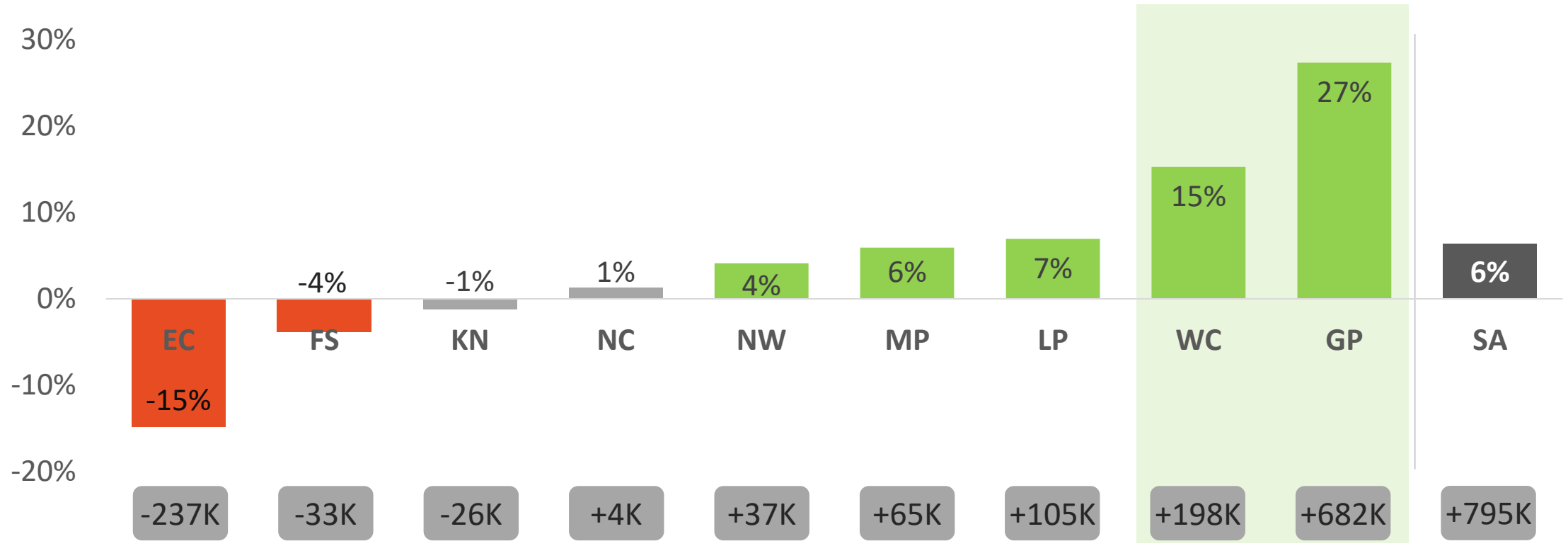
Note: Period 2021 – 2030 is the same timeframe, nine years, as 2012 – 2021.
Source: Thembisa age-specific estimates from the model V4.5 for children aged 7-18 by province

Which provinces will be most affected by the retirement wave?

Figure 1: Educator age distribution (2021)

The retirement wave peak will differ across provinces

- LP and the EC have a higher concentration of older educators relative to SA- they will be the most affected by the upcoming-age related retirements

- The WC has the lowest peak of older educators; it has a higher concentration of younger educators

- LP, EC and MP had a peak at around 53 years of age in 2021, while WC had a peak at around 55 years of age in 2021
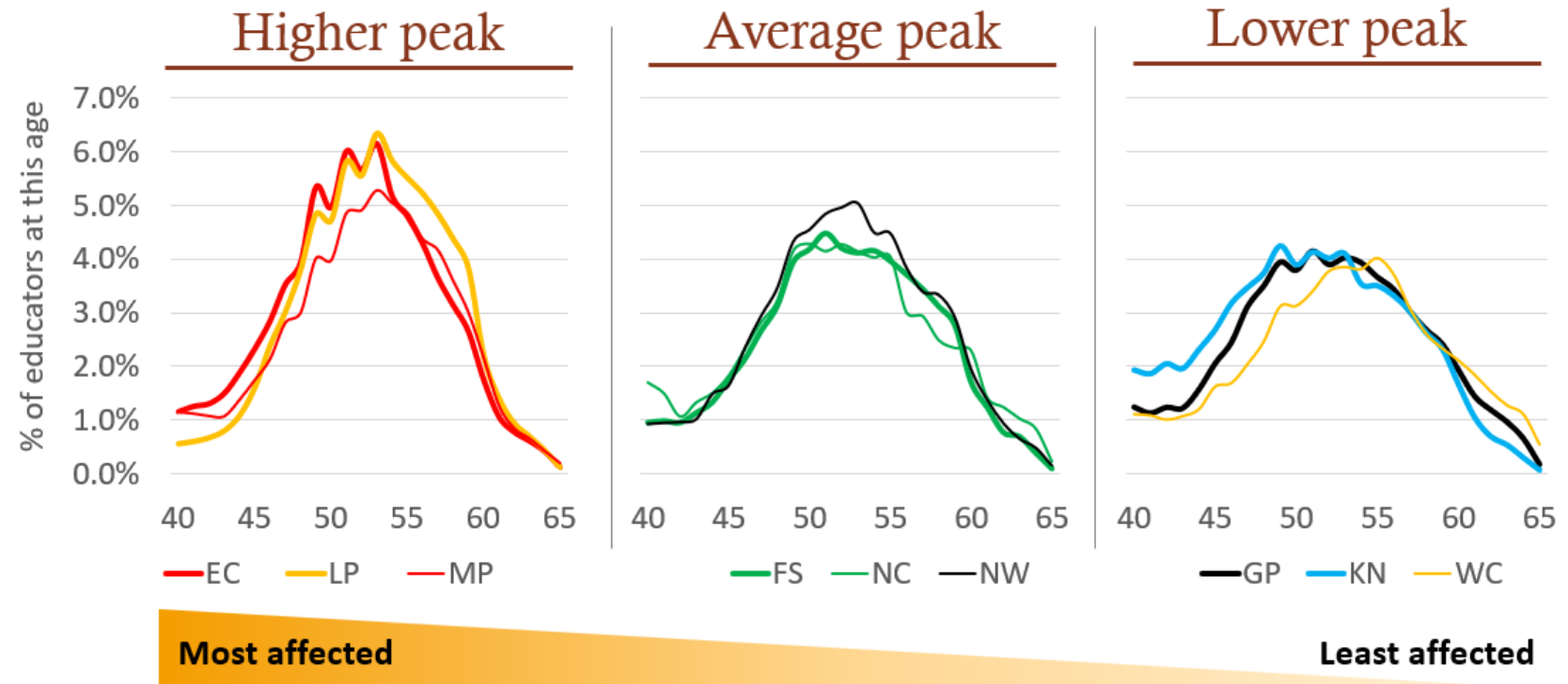
Source: Anonymised PERSAL data from 2021 looking at only educators, ECD practitioners and examination reviewers ABET teachers and TVET lecturers removed.

Which educators are approaching retirement by province?

Percentage of educators aged 50+ in 2021

- LP (81%) has a high percentage of senior educators aged 50 years and older in 2021, followed by MP (73%), WP (73%) and EC(71%)

- LP (63%) has a high percentage of primary school educators aged 50 years and older in 2021, followed by EC (58%) and MP (55%)

Province	All educators	Senior educators (HOD, Dep.- principals, Principals & Other)	Primary school educators
EC	51%	71%	58%
FS	43%	65%	49%
GP	41%	65%	42%
KN	39%	65%	44%
LP	58%	81%	63%
MP	50%	73%	55%
NC	43%	69%	44%
NW	47%	70%	52%
WC	42%	73%	40%

Source: Anonymised PERSAL data from 2021, only educators (Rank 60 000 – 69 999) are considered. ECD practitioners, TVET lecturers and ABET teachers were removed. The 2021 rankclass file was expanded to include ranks found only in years prior to 2021, used to classify educators by rank. Primary school only includes all educators that are in a component that is classified as a Primary school.

Projected resignation & retirements

Eastern Cape
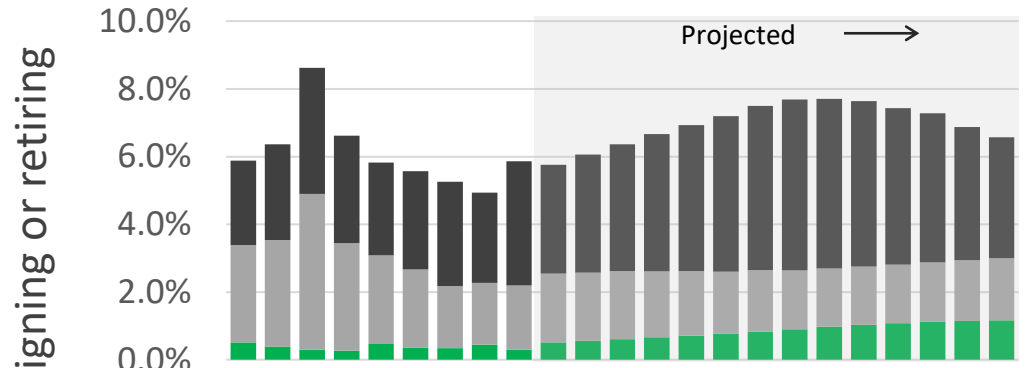
Limpopo

Gauteng

Western Cape

Assume constant 2021 educator numbers

% of educators resigning or retiring
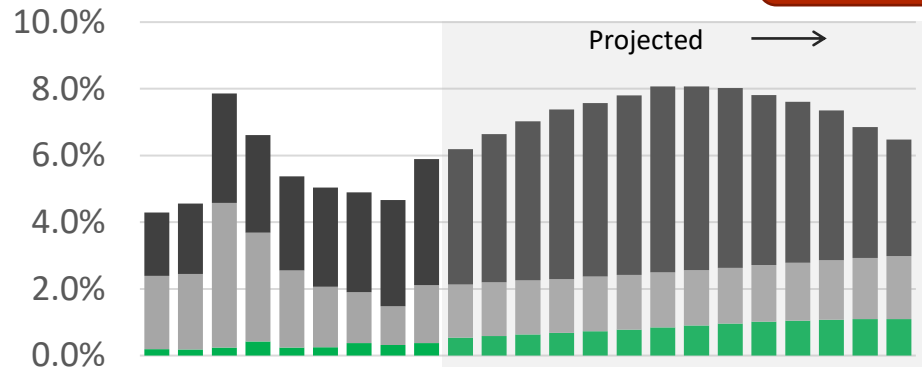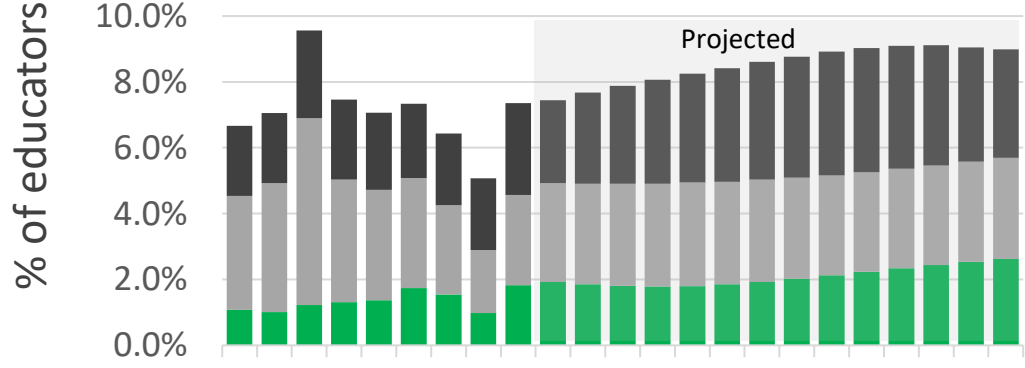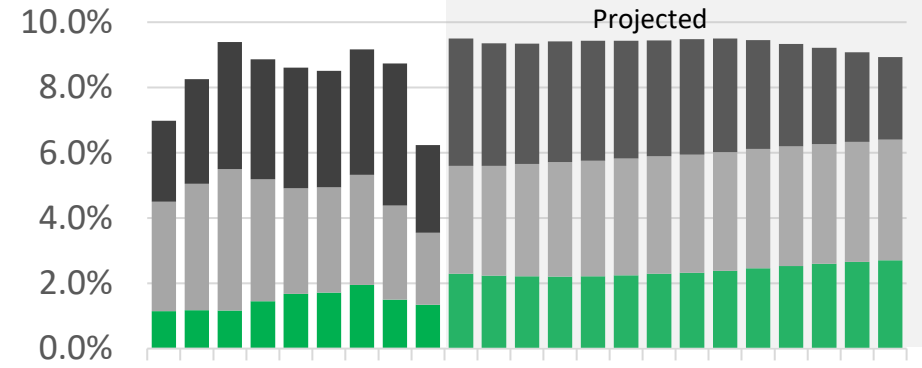
■ Aged 21 to 30   ■ Aged 31 to 55   ■ Aged 56 to 65

Source: Anonymised PERSAL data from 2021, only educators (Rank 60 000 – 69 999) are considered. ECD practitioners, TVET lecturers and ABET teachers were removed. Estimates to 2035 derived from the National and provincial teacher supply and demand models – assumption of no growth in educator numbers. Note: Retirements refer to all educators, aged 56 to 65, that leave PERSAL, whilst resignations refer to all educators aged 55 and below that leave PERSAL (as educators) for any reason.

Gender and school leadership?

Eastern Cape (2021)
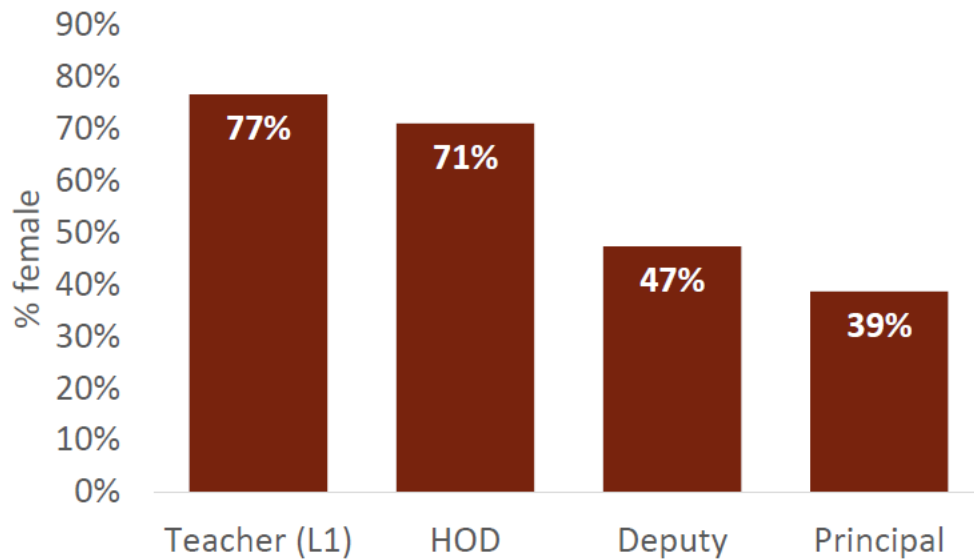
Western Cape in 2021
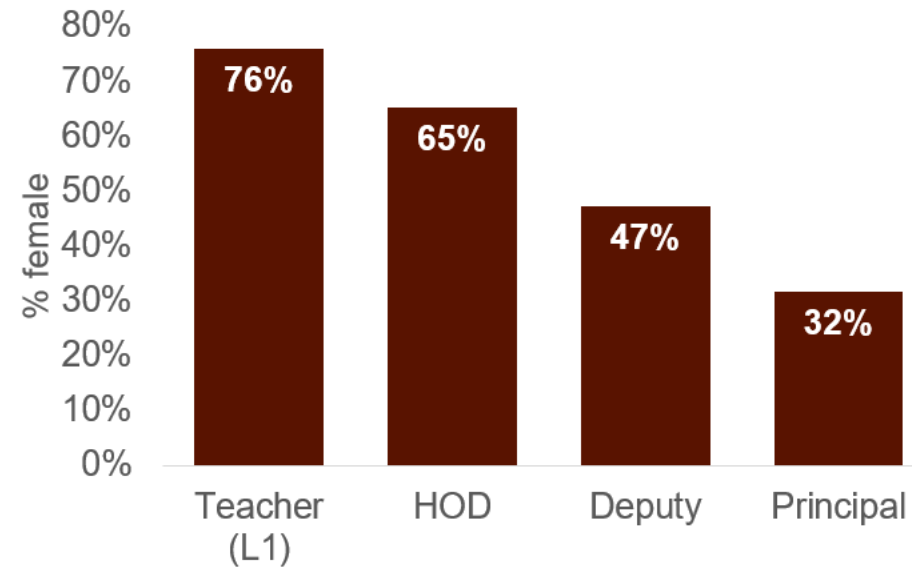
- In the Eastern Cape in 2021, **72%** of all educators were women. Women were well represented at the HOD level at **71% of HODs.**

- In the Western Cape in 2021, **72%** of all educators were women, yet only **47% of deputy principals and 32% of principals** were women.

Source: Using anonymised 10-year PERSAL data from 2012 to 2021, only educators of the ranks: level 1 teacher, HOD, deputy principal and principal are considered.

Is this improving?

Male Managers, Female Teachers
The South African case of gender imbalances in school leadership and management

Gabrielle Wills & Bianca Böhmer (10 July 2023)

RESEP
Research on Socio-Economic Policy

Teacher Demographic Dividend.
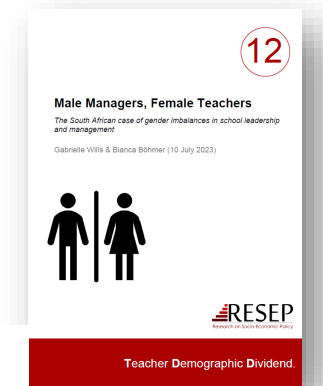
- **Nationally, there has been very little transformation in senior school leadership in terms of gender** since 2012 and even since 2004 (just 34% of principals were female).

- There is better representation at middle-management (HOD) level.

Figure 1. Percentage of public educators in South Africa that are female, PERSAL (2012-2021)

Source: Using anonymised 10-year PERSAL data from 2012 to 2021, only educators of the ranks: level 1 teacher, HOD, deputy principal and principal are considered.

LP: Educator growth in SMT positions

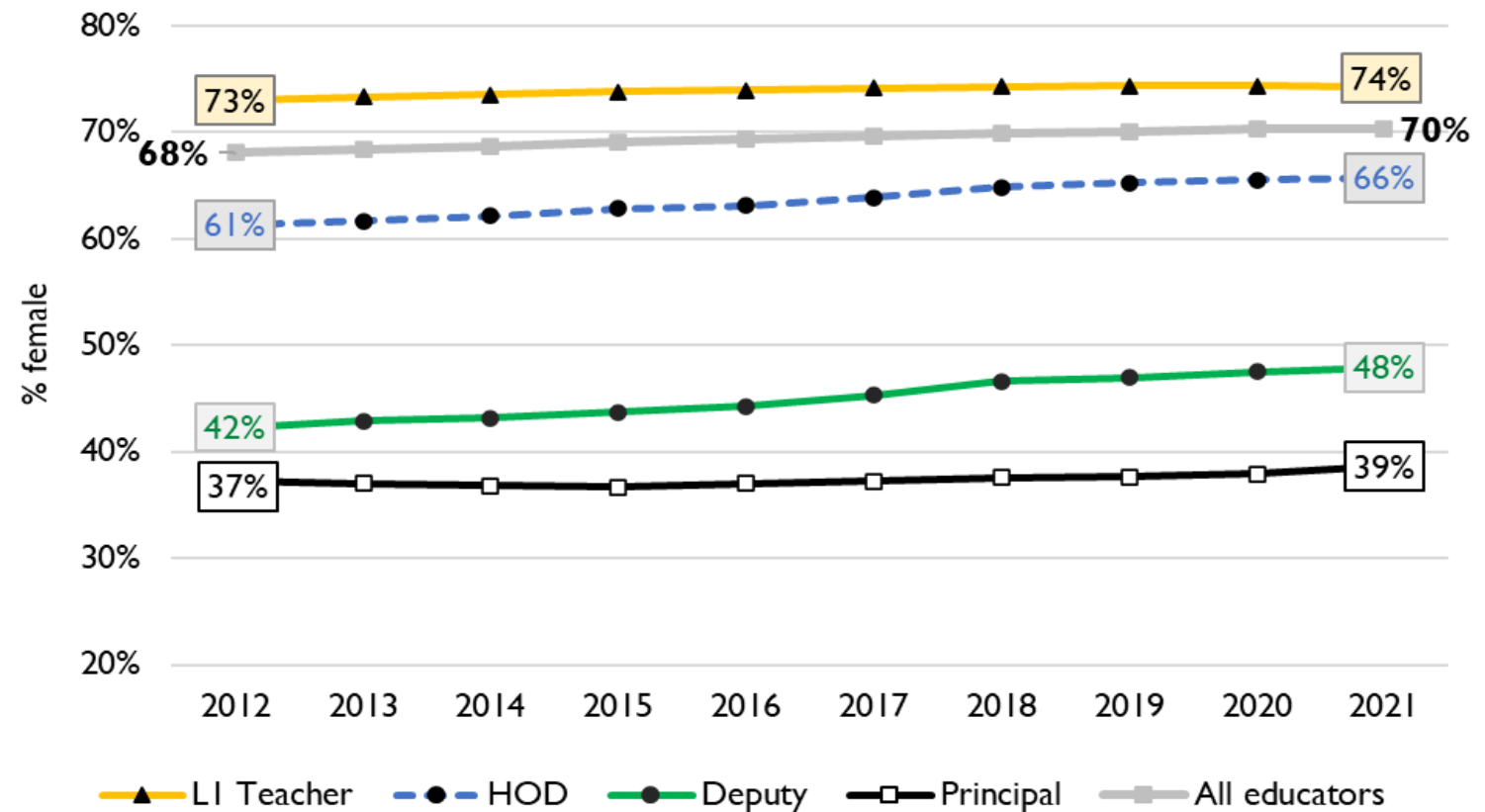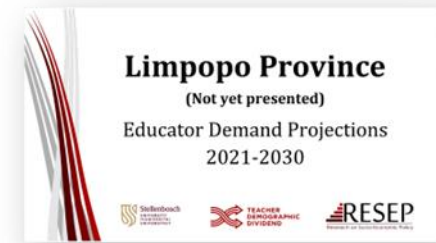| Province	Teacher				HOD				Deputy-Principal				Principal			
	2012	2021	Diff	% change	2012	2021	Diff	% change	2012	2021	Diff	% change	2012	2021	Diff	% change
EC	50 295	40 115	-10 180	-20%	5 870	6 196	326	6%	1 342	1 453	111	8%	5 294	4 755	- 539	-10%
FS	20 148	17 561	-2 587	-13%	2 685	2 470	- 215	-8%	852	768	- 84	-10%	1 224	892	- 332	-27%
GP	47 233	60 677	13 444	28%	8 708	9 209	501	6%	2 565	2 850	285	11%	2 162	1 959	- 203	-9%
KN	73 050	71 000	-2 050	-3%	11 289	10 330	- 959	-8%	2 642	2 342	- 300	-11%	5 584	5 055	- 529	-9%
LP	44 998	44 317	- 681	-2%	6 090	3 762	-2 328	-38%	1 562	778	- 784	-50%	3 510	3 316	- 194	-6%
MP	26 127	27 857	1 730	7%	4 047	4 055	8	0%	1 108	1 114	6	1%	1 790	1 450	- 340	-19%
NC	7 257	7 929	672	9%	1 034	1 094	60	6%	294	365	71	24%	587	488	- 99	-17%
NW	21 305	22 261	956	4%	2 994	3 023	29	1%	902	1 041	139	15%	1 698	1 338	- 360	-21%
WC	23 579	28 665	5 086	22%	4 065	3 700	- 365	-9%	1 334	1 297	- 37	-3%	1 531	1 339	- 192	-13%
SA	313 992	320 382	6 390	2%	46 782	43 839	-2 943	-6%	12 601	12 008	- 593	-5%	23 380	20 592	-2 788	-12%

- There has been a substantial decline in the number of HODs and Deputy Principals between 2012 and 2021 (38% of HODs and 50% of Deputy Principals), which puts the province well below the national average of management vs teacher numbers

KZN & EC: Small schools

KwaZulu-Natal Province
23 July 2023
Educator Demand Projections
2021-2030

Eastern Cape Province
21 July 2023
Educator Demand Projections
2021-2030

- The Eastern Cape is the province with the highest number of small and very small schools in the country

Count of schools with fewer than 300, 200, & 100 learners by province (2021)

School size
- 200-300
- 100-200
- <100
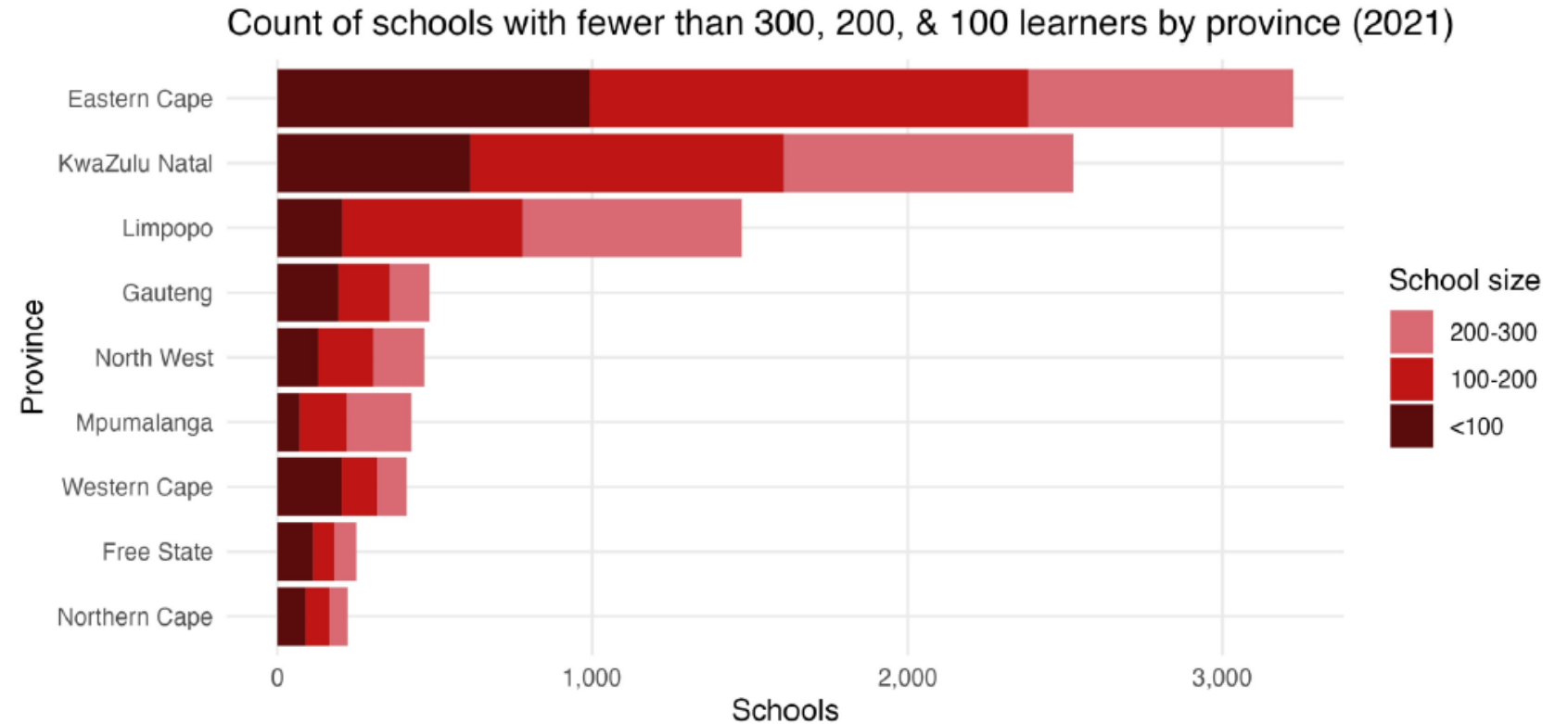
Source: LURITS and EMIS school Masterlist data from 2021.

Source: Peter Courtney

NC: Educator movement (7-yr)

- **High movement into the NC,** a total of 5.8% of educators in 2019that were teaching in 2012, had come from another province since 2012

- The province that sent the highest number of educators to the NC was the NW

		Province in 2019								
		EC	**FS**	**GP**	**KN**	**LP**	**MP**	**NC**	**NW**	**WC**
Province in 2012	**EC**	42 645	42	373	95	5	16	46	82	304
	FS	57	15 267	447	17	11	38	67	252	42
	GP	67	117	42 770	121	356	187	20	409	108
	KN	146	67	755	64 723	64	247	9	37	26
	LP	10	10	709	7	39 899	328	20	230	7
	MP	7	34	618	94	385	23 644	7	121	17
	NC	31	33	31	4	39	2	6 214	156	76
	NW	12	111	726	5	123	65	141	17 690	27
	WC	152	7	37	11	0	5	75	6	20 858
	Total 2019	**43 127**	**15 688**	**46 466**	**65 077**	**40 882**	**24 532**	**6 599**	**18 983**	**21 465**
	Movement into province	**482**	**421**	**3 696**	**354**	**983**	**888**	**385**	**1 293**	**607**
	% movement into province	*1.1%*	*2.7%*	*8.0%*	*0.5%*	*2.4%*	*3.6%*	*5.8%*	*6.8%*	*2.8%*

Source: PERSAL 10-year anonymised dataset, only educators that were in the dataset for 2012 and 2019 are considered here

Key Issues Raised in Provincial Engagements

Mismatches In The System

- Subject Specialisation
- University teacher production and Funza Lushaka Graduates
- Database Of Unemployed Teachers
- The Limitations Of The Post-Provisioning Norm (PPN) Model

Gender Imbalances In Management and Role of SGBs

- The Basic Laws Amendment Bill (Bela Bill)

Ageing Office-Based Educators (Office-Based Managers And Specialists)

Retention of young teachers in hard-to-staff schools

What we learned from engagements

Provincial disaggregation really matters for understanding demand and contributing to planning

Thank you

?

Past educator, school & enrolment growth

Province	Number of educators	Number of teachers	Number of public ordinary schools	Enrolment in public ordinary schools	Enrolment in ordinary schools	Est. school-aged population
			% growth from 2012 to 2021			
EC	-17%	-20%	-8%	-6%	-5%	-4%
FS	-13%	-13%	-27%	9%	10%	14%
GP	21%	28%	1%	20%	24%	27%
KN	-5%	-3%	-3%	1%	1%	8%
LP	-8%	-2%	-7%	4%	5%	8%
MP	3%	7%	-8%	7%	8%	13%
NC	6%	9%	-3%	9%	10%	9%
NW	2%	4%	-9%	12%	13%	20%
WC	12%	22%	0%	21%	22%	22%
SA	**-1%**	**2%**	**-6%**	**7%**	**8%**	**13%**

Past educator, school & enrolment growth

Province	**% growth from 2012 to 2021**					
	Number of educators	**Number of teachers**	**Number of public ordinary schools**	**Enrolment in public ordinary schools**	**Enrolment in ordinary schools**	**Est. school-aged population**
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LP	-8%	-2%	-7%	4%	5%	8%
MP	3%	7%	-8%	7%	8%	13%
NC	6%	9%	-3%	9%	10%	9%
NW	2%	4%	-9%	12%	13%	20%
WC	12%	22%	0%	21%	22%	22%
SA	**-1%**	**2%**	**-6%**	**7%**	**8%**	**13%**

Source: Educator numbers from anonymised PERSAL data from 2012 and 2021, only educators (Rank 60 000 – 69 999) are considered. Thembisa age specific data V4.5 for school-aged population (Ages 7-18) estimates and enrolment and school numbers taken from School Realities-EMIS (2012 – 2021) released by the DBE, for numbers on ordinary public and independent schools (Statistical Publications (education.gov.za))

Past educator, school & enrolment growth

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MP	3%	7%	-8%	7%	8%	13%
NC	6%	9%	-3%	9%	10%	9%
NW	2%	4%	-9%	12%	13%	20%
WC	12%	22%	0%	21%	22%	22%
SA	-1%	2%	-6%	7%	8%	13%

Proportional split by educator rank

	All Educators		Teacher		HOD		Dep.-Principal		Principal		Other	
	2012	2021	2012	2021	2012	2021	2012	2021	2012	2021	2012	2021
EC	100%	100%	78% ⬇ 75%		9% ⬆ 12%		2.1% ⬆ 2.7%		8.2% ⬆ 8.8%		2.5%	2.4%
FS	100%	100%	78%	78%	10%	11%	3.3%	3.4%	4.7%	4.0%	3.7%	3.3%
GP	100%	100%	74% ⬆ 79%		14%	12%	4.0%	3.7%	3.4% ⬇ 2.6%		4.4%	2.7%
KN	100%	100%	77%	79%	12%	11%	2.8%	2.6%	5.9%	5.6%	2.1%	1.3%
LP	100%	100%	78% ⬆ 84%		11% ⬇ 7%		2.7% ⬇ 1.5%		6.1%	6.3%	2.1%	1.5%
MP	100%	100%	76% ⬆ 79%		12%	12%	3.2%	3.2%	5.2% ⬇ 4.1%		3.2%	1.8%
NC	100%	100%	75%	77%	11%	11%	3.0% ⬆ 3.6%		6.1% ⬇ 4.8%		5.1%	3.9%
NW	100%	100%	76%	78%	11%	11%	3.2%	3.7%	6.1% ⬇ 4.7%		3.7%	2.6%
WC	100%	100%	74% ⬆ 80%		13% ⬇ 10%		4.2% ⬇ 3.6%		4.8% ⬇ 3.7%		4.1%	2.1%
SA	100%	100%	77%	79%	11%	11%	3.1%	3.0%	5.7%	5.1%	3.1%	2.1%

Source: Anonymised PERSAL data from 2012 and 2021. Only educators are considered. ECD practitioners, examination reviewers, ABET teachers and TVET lecturers were removed. Arrow shown for teachers and HODs if difference is at least 3 percentage points, for deputy principals if the difference is at least 0.6 percentage points and for principals a difference of at least 0.8 percentage points.

Projected unit costs trends | All educators

In constant 2021 rands

5%

Average annual unit cost
(In 2021 Rands)

480,000
475,000
470,000
465,000
460,000
455,000
450,000
445,000
440,000

2022　2023　2024　2025　2026　2027　2028　2029　2030

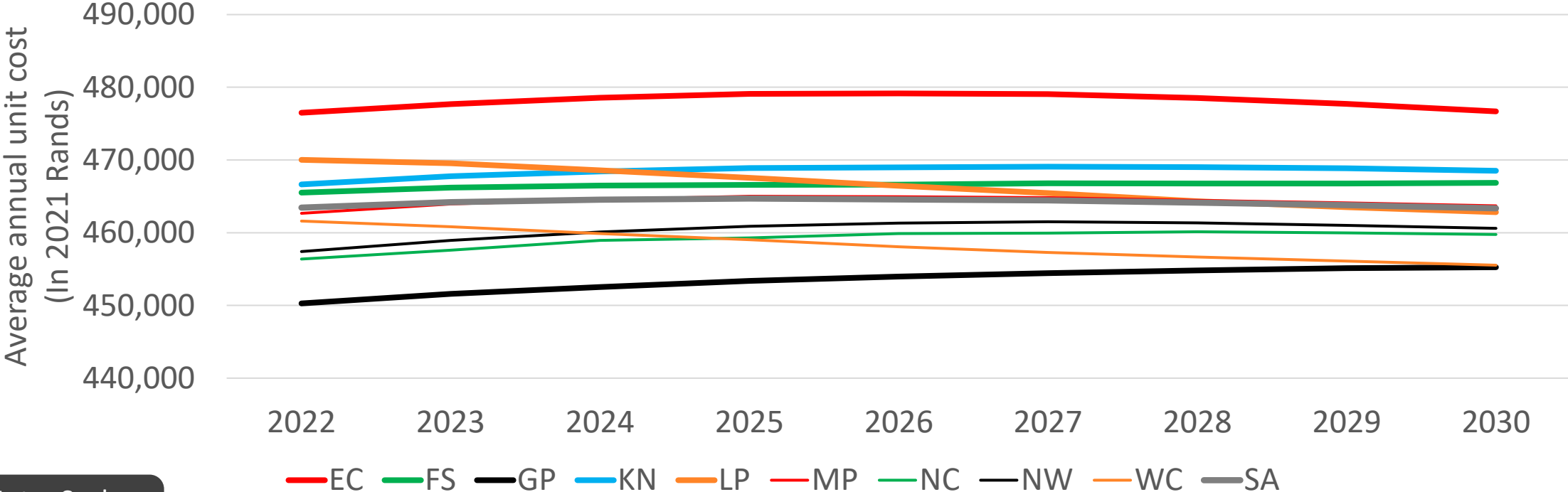——EC　——FS　——GP　——KN　——LP　——MP　——NC　——NW　——WC　——SA
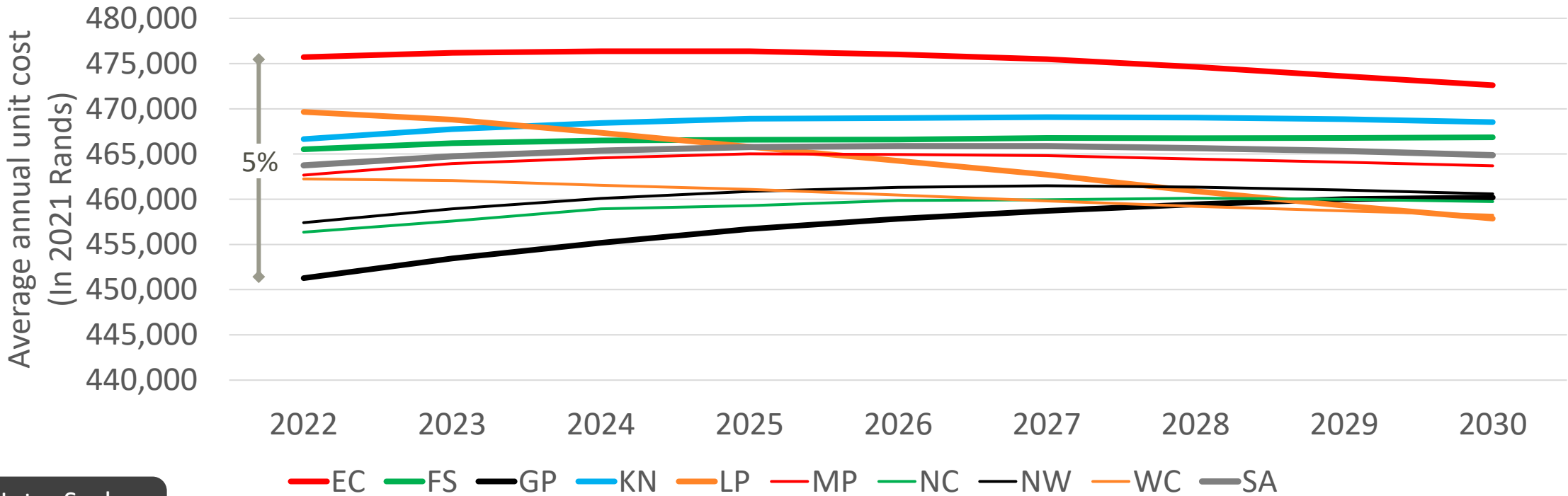
Note: Scale not from zero

Source: Own calculations, using the anonymised PERSAL data from 2021, only educators are considered. ECD practitioners and examination reviewers removed. Estimates to 2030 derived from the national and provincial TSD models. Assumption of no growth in educator numbers.

Projected unit costs trends| All educators

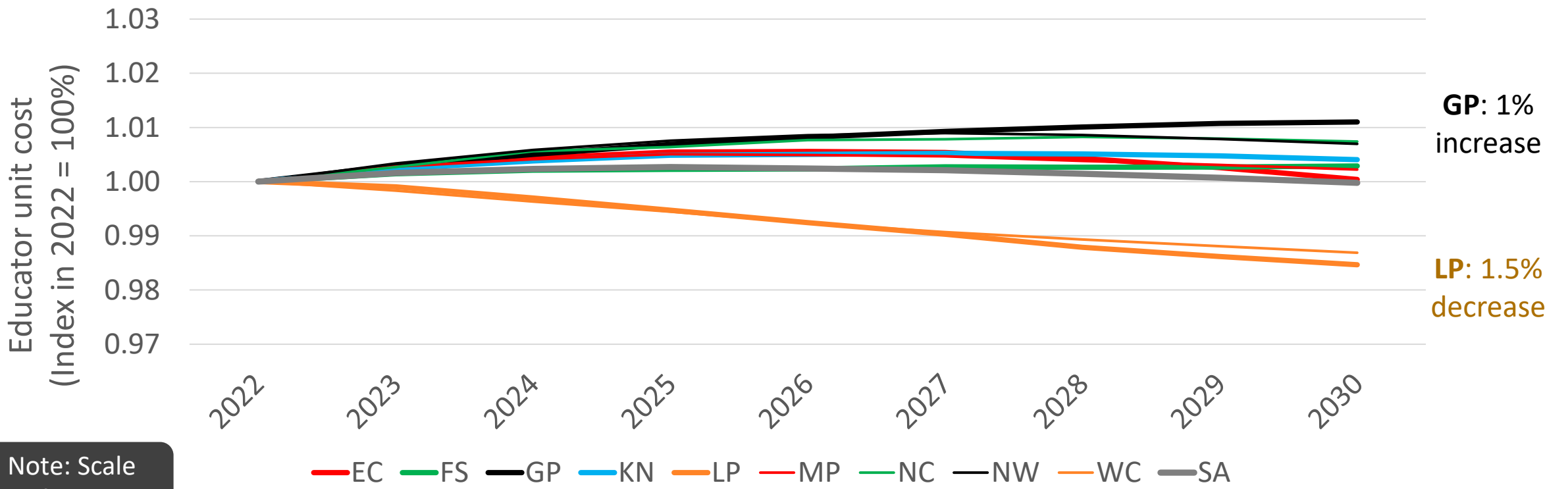In constant 2021 rands

Note: Scale not from zero

GP, WC and EC growth and LP ranks adjusted

Source: Own calculations, using the anonymised PERSAL data from 2021, only educators are considered. ECD practitioners and examination reviewers removed. Estimates to 2030 derived from the national and provincial TSD models. Assumption of no growth in educator numbers for FS, KN, LP, MP, NC, NW and SA. Assume 20% educator growth for GP, 10% for WC and a decline in 10% of educators in the EC. In LP assume that the proportion of non-teachers grows from 16% in 2021 to 21% in 2030.

Indexed unit costs trends| All educators

Put in last slide

In constant 2021 rands

GP: 1% increase

LP: 1.5% decrease

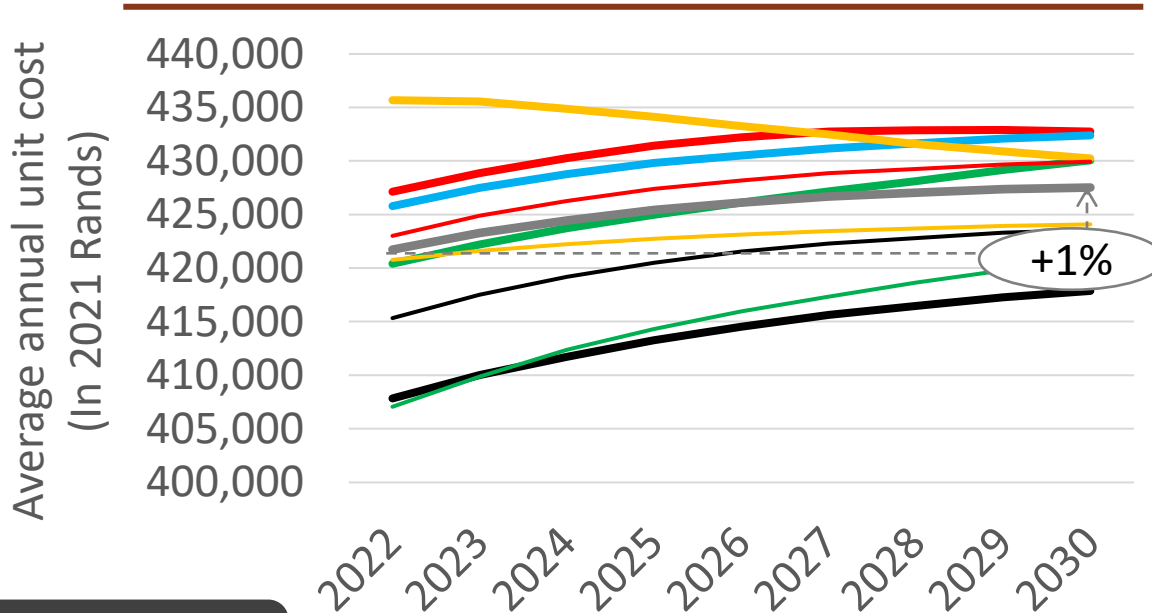Note: Scale not from zero

GP, WC and EC growth and LP ranks adjusted

Legend: EC FS GP KN LP MP NC NW WC SA

Source: Own calculations, using the anonymised PERSAL data from 2021, only educators are considered. ECD practitioners and examination reviewers removed. Estimates to 2030 derived from the national and provincial TSD models. Assumption of no growth in educator numbers for FS, KN, LP, MP, NC, NW and SA. Assume 20% educator growth for GP, 10% for WC and a decline in 10% of educators in the EC. In LP assume that the proportion of non-teachers grows from 16% in 2021 to 21% in 2030.

Projected unit costs trends| All educators

In constant 2021 rands

Teachers
(School based teachers)

Non-teachers
(HODs, Deputy's, Principals & Other)

Average annual unit cost (In 2021 Rands)

+1%

-4%

Note: Scale not from zero

GP, WC and EC growth and LP ranks adjusted

Legend: — EC — FS — GP — KN — LP — MP — NC — NW — WC — SA

Source: Own calculations, using the anonymised PERSAL data from 2021, only educators are considered. ECD practitioners and examination reviewers removed. Estimates to 2030 derived from the national and provincial TSD models. Assumption of no growth in educator numbers for FS, KN, LP, MP, NC, NW and SA. Assume 20% educator growth for GP, 10% for WC and a decline in 10% of educators in the EC. In LP assume that the proportion of non-teachers grows from 16% in 2021 to 21% in 2030.
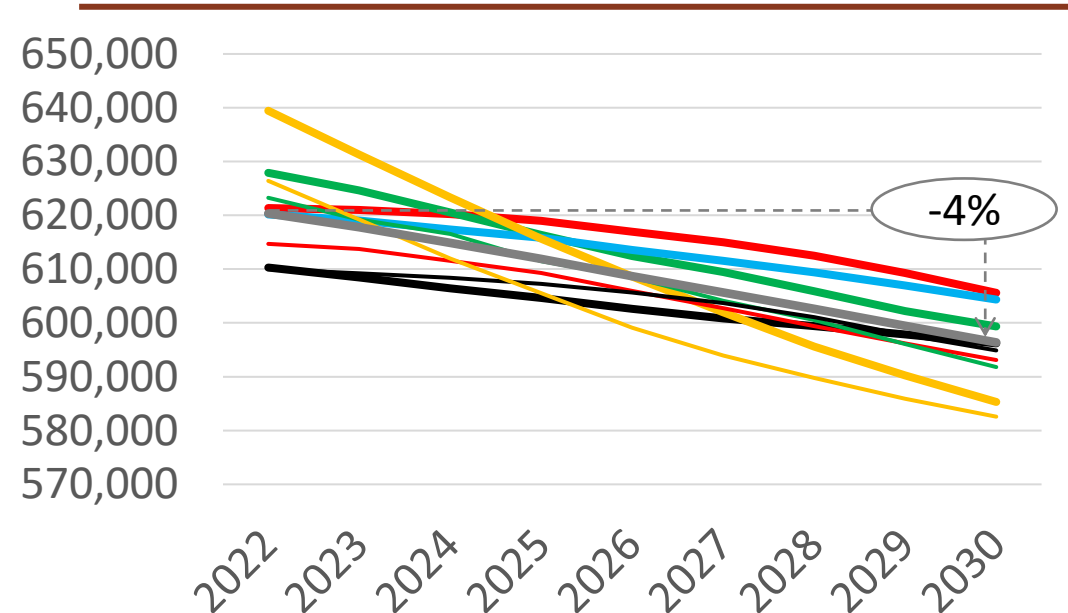
Snapshot| Provincial recommendations

Limpopo

Highlights
- Province that will be most affected by the retirement wave
- Facing moderate growth in child population to 2030 (+6%)
- Hollowing out of middle management: Limited promotions to HOD and DP

Recommendations
→ Hiring, allocation and promotions are a priority over the next few years
→ Need to improve overall workforce allocation and in class optimisation of resources

Gauteng

Highlights
- High growth in the child population projected (~+27% 2012 to 2021)
- Province that will be less affected by retirement wave (fewer older educators, higher churn and high demand province)
- Low school growth (+1%, 2012 to 2021)

Recommendations
→ Infrastructure development the key priority
→ Will need to continue to hire enough teachers and promote well to maintain balanced organisational structure

What's next| Future research

- Demand and supply of subjects, phases and LOLT
  - In which subjects, phases and LOLTs is there undersupply
  - How do graduate specialisations differ from required skills

- Promotions process
  - Desirable management structure (eg. proportion HODs) & skill set
  - Gender lense: High proportions of males in management

- Links to LE ratio and class size