

Gauteng Province

24 October 2023

Educator Demand Projections 2021-2030



Introduction (1)



- The proportion of educators that are 50 years or older has steadily risen between 2012 to 2021 in South Africa.
 - ⇒ Nationally a **wave of educator retirements is expected** as older educators reach the standard retirement age of between 60 and 65.

Implications:

- **Many more appointments:** The retirement wave will open up both teaching & school management & leadership positions & other office-based education specialists.
- **Total compensation of educators:** Since older teachers earn more, when retiring they are replaced with younger (less costly) teachers.

Introduction (2)



- As retirements increase, the required number of **new appointments will need to increase** to ensure that total educator numbers (at a minimum) stay at current levels and/or are sufficient to **meet learner enrolment growth** to **prevent deterioration in learner-educator ratios**.
- Planning will be required to ensure that provinces are ready for the sustained increase in appointments.
- If these positions are not filled, this could result in a further deterioration in the learner-educator ratio and lead to further increases in already large class sizes.

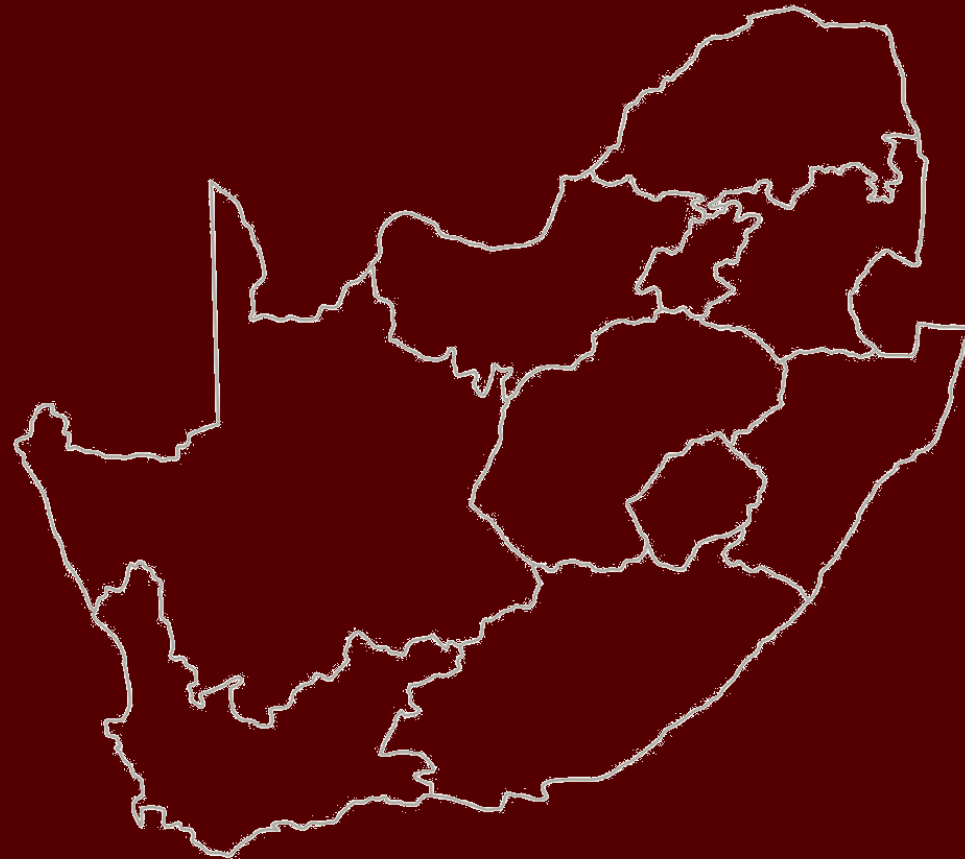
Objective

In each province, there are differences in the age profile of teachers, the expected growth of the school-going population and expected teacher attrition (resignations and retirements).

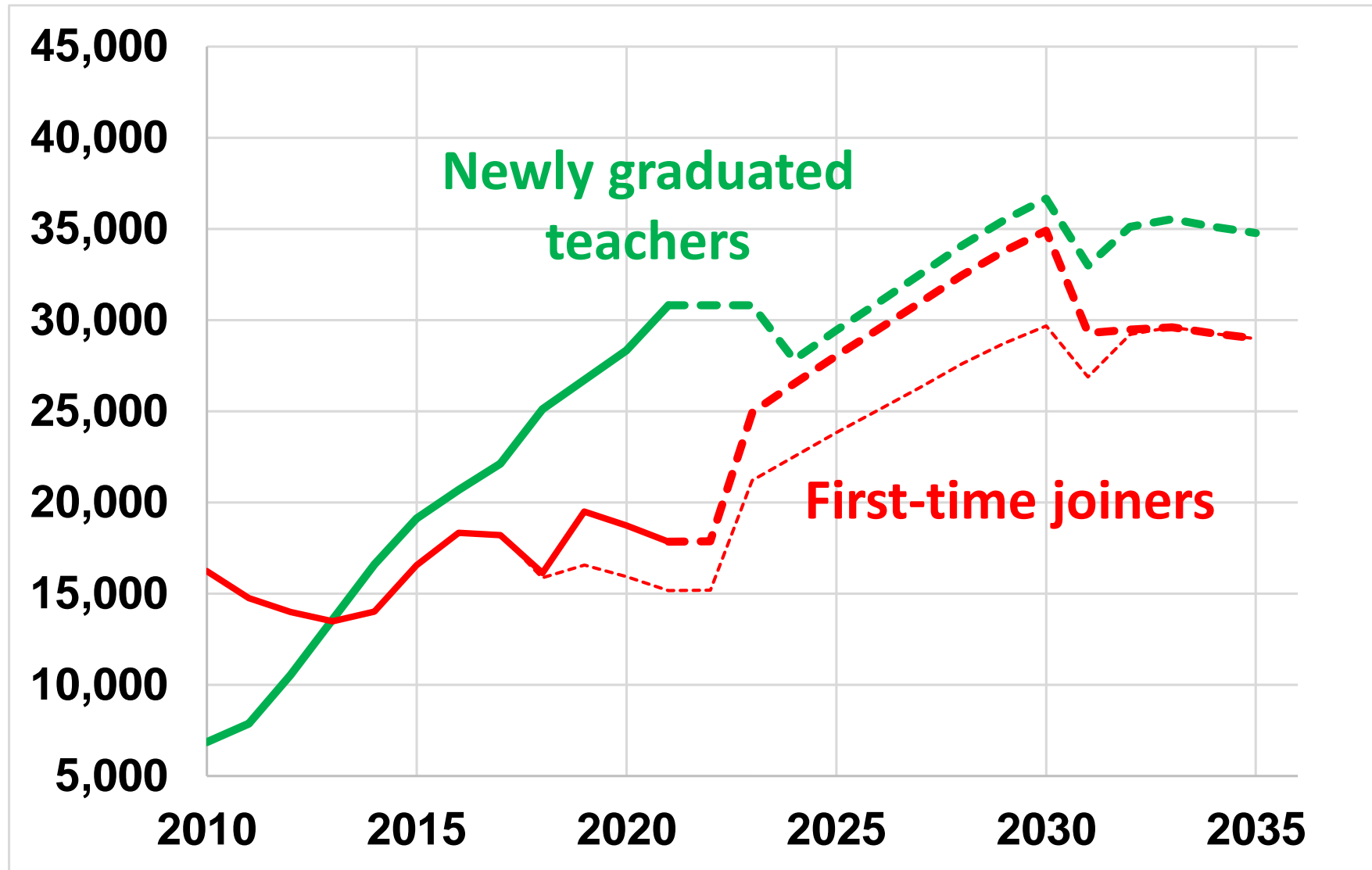
In this presentation, we will....

- Outline the National picture
- Highlight aspects of the situation in Gauteng
- Present some insights for Gauteng from SA-SAMS

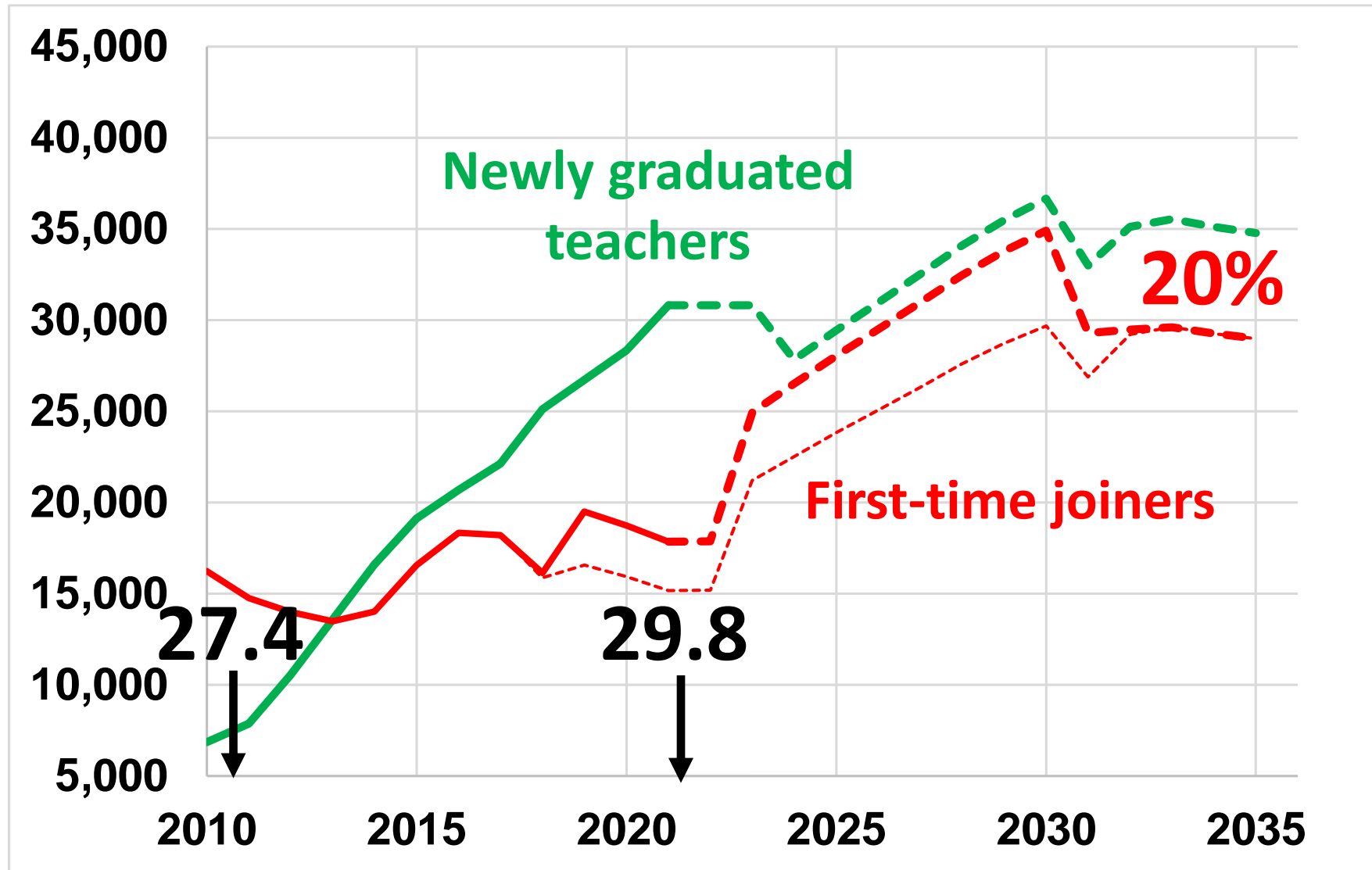
National Background



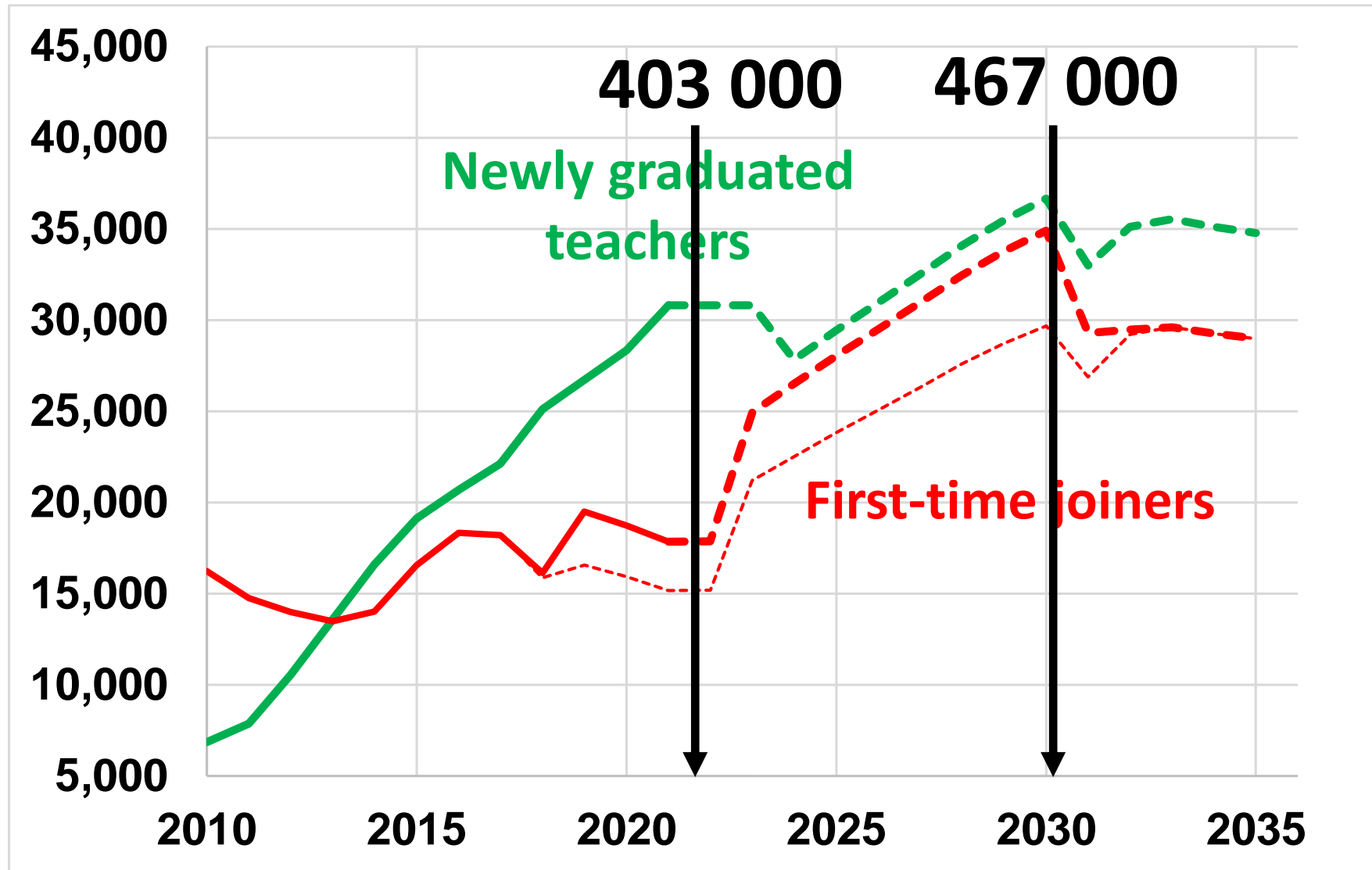
The 'main graph': Focus on the LE ratio



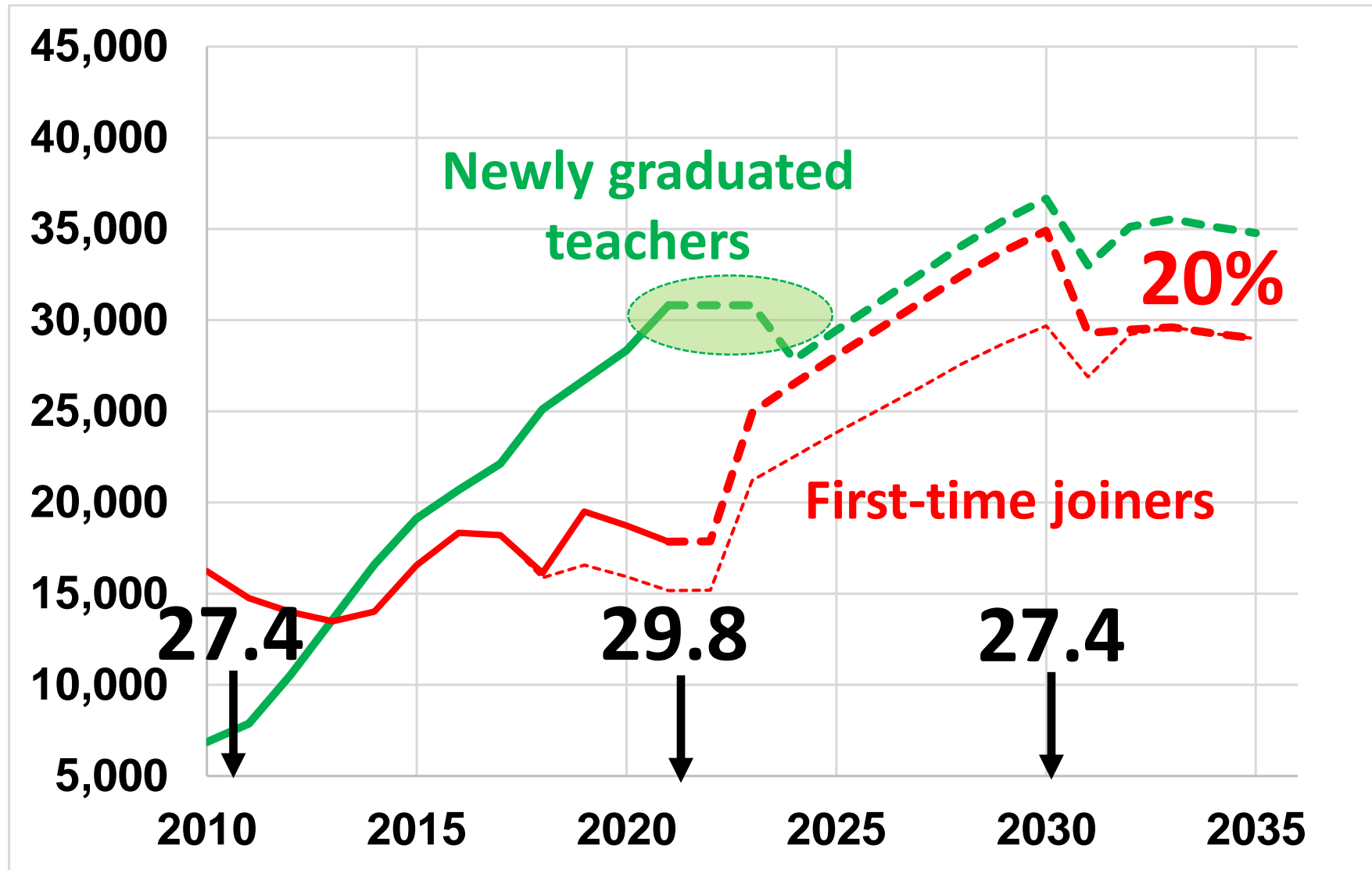
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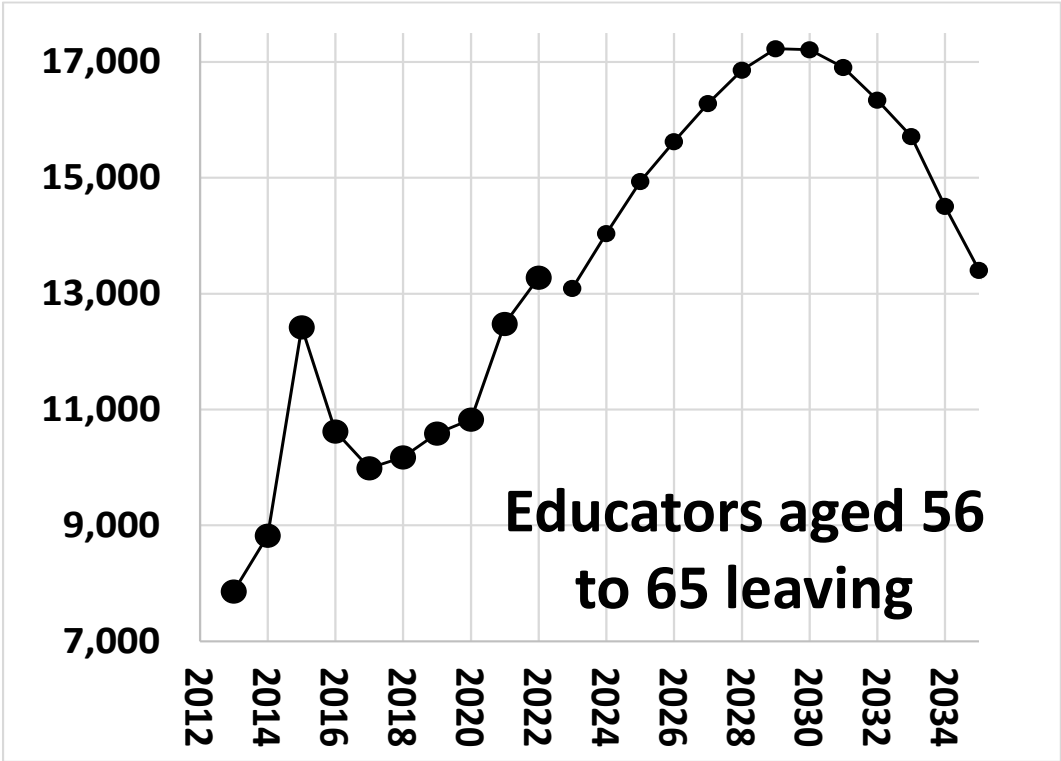
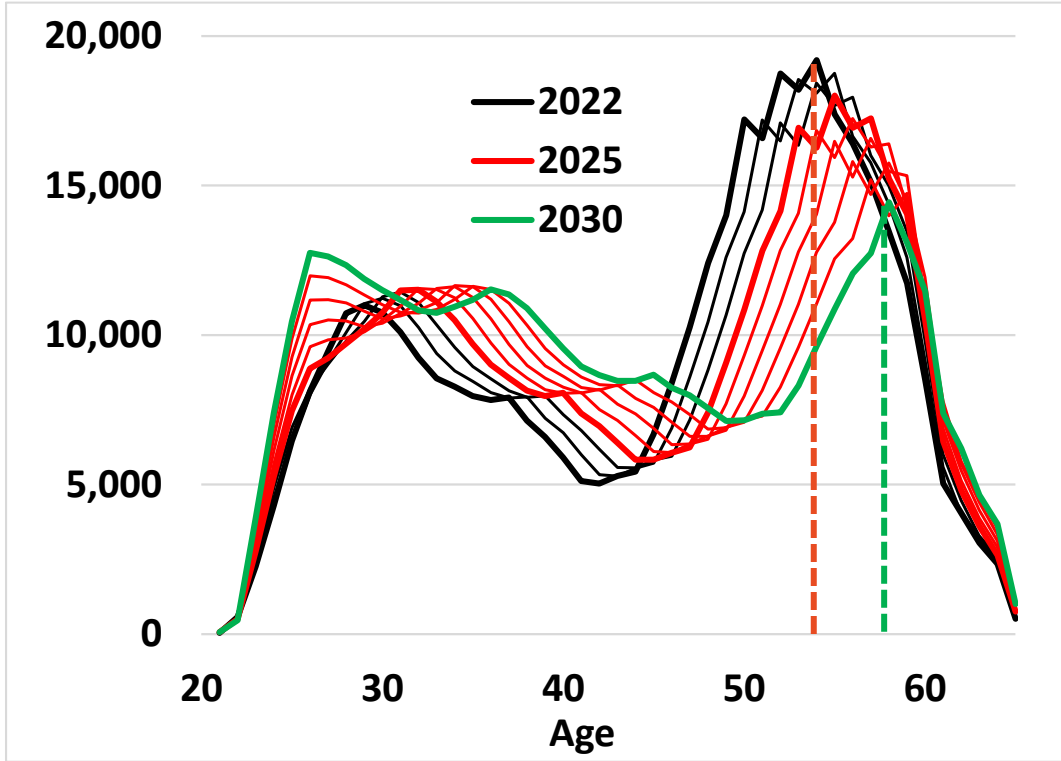
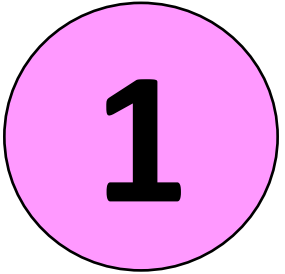
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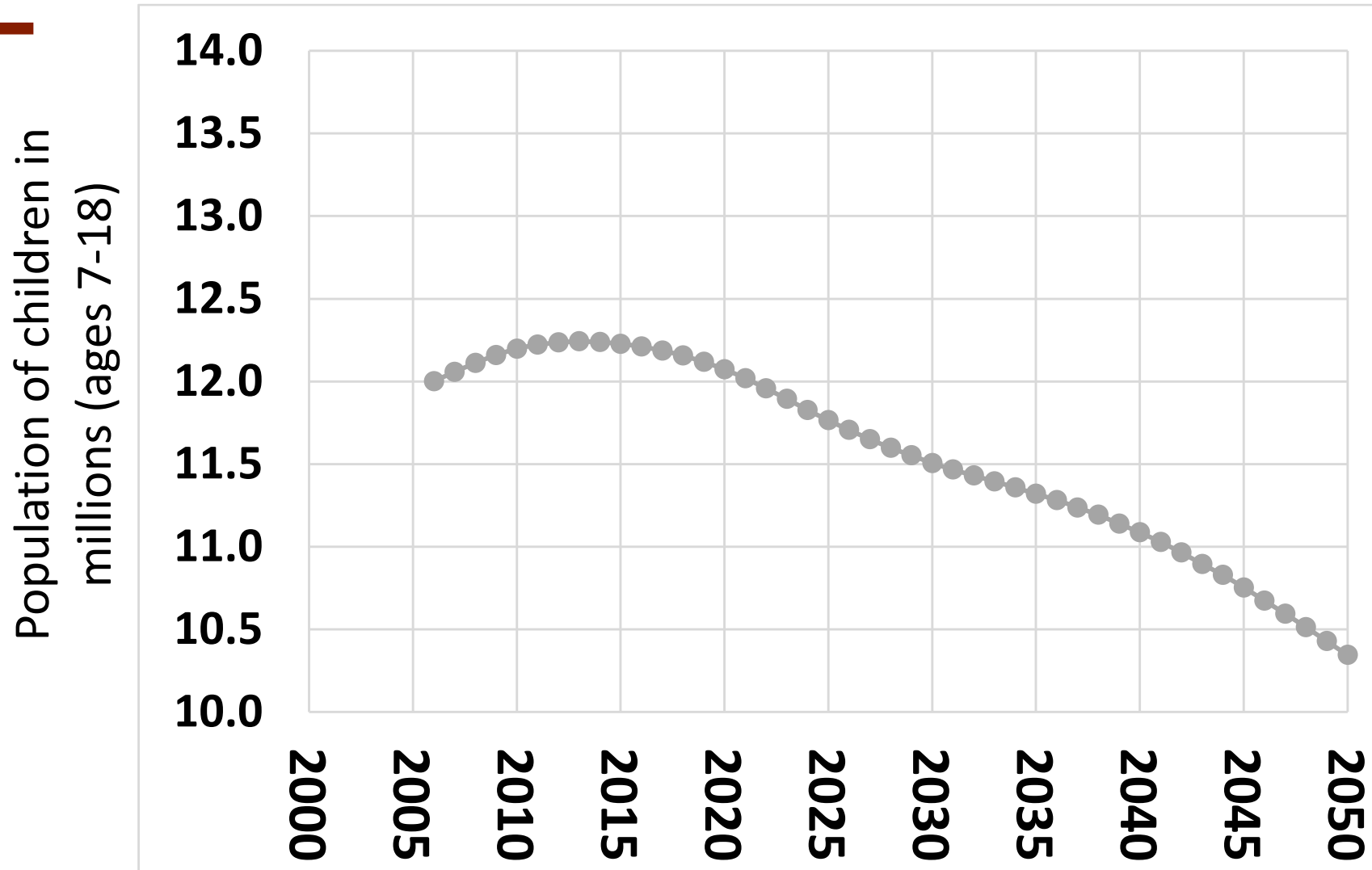
More educators retiring in the coming years



By 2030, **35%** would have left due to age
By 2035, **53%**

Many more school-age children than we expected

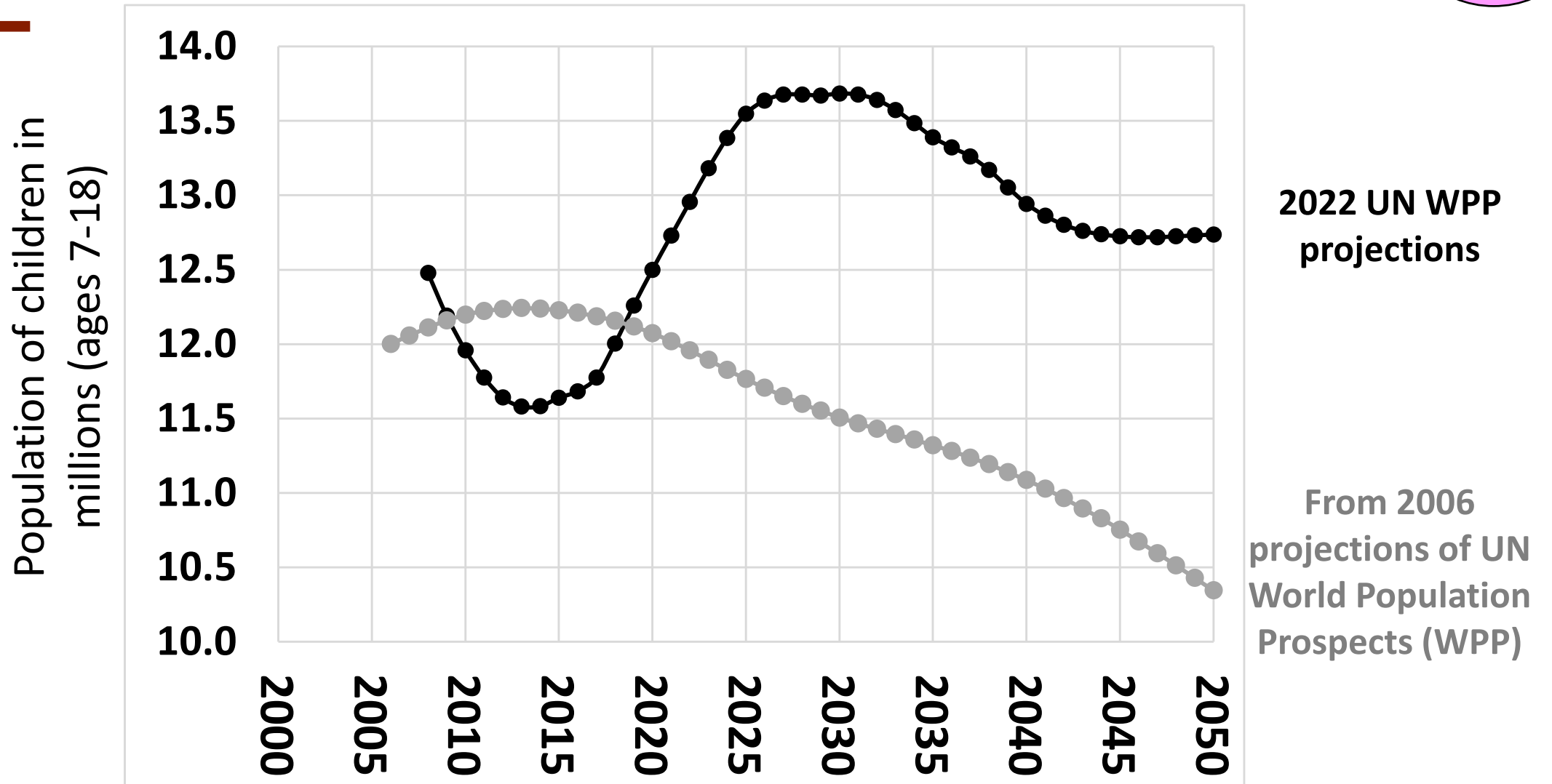
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From 2006
projections of UN
World Population
Prospects (WPP)

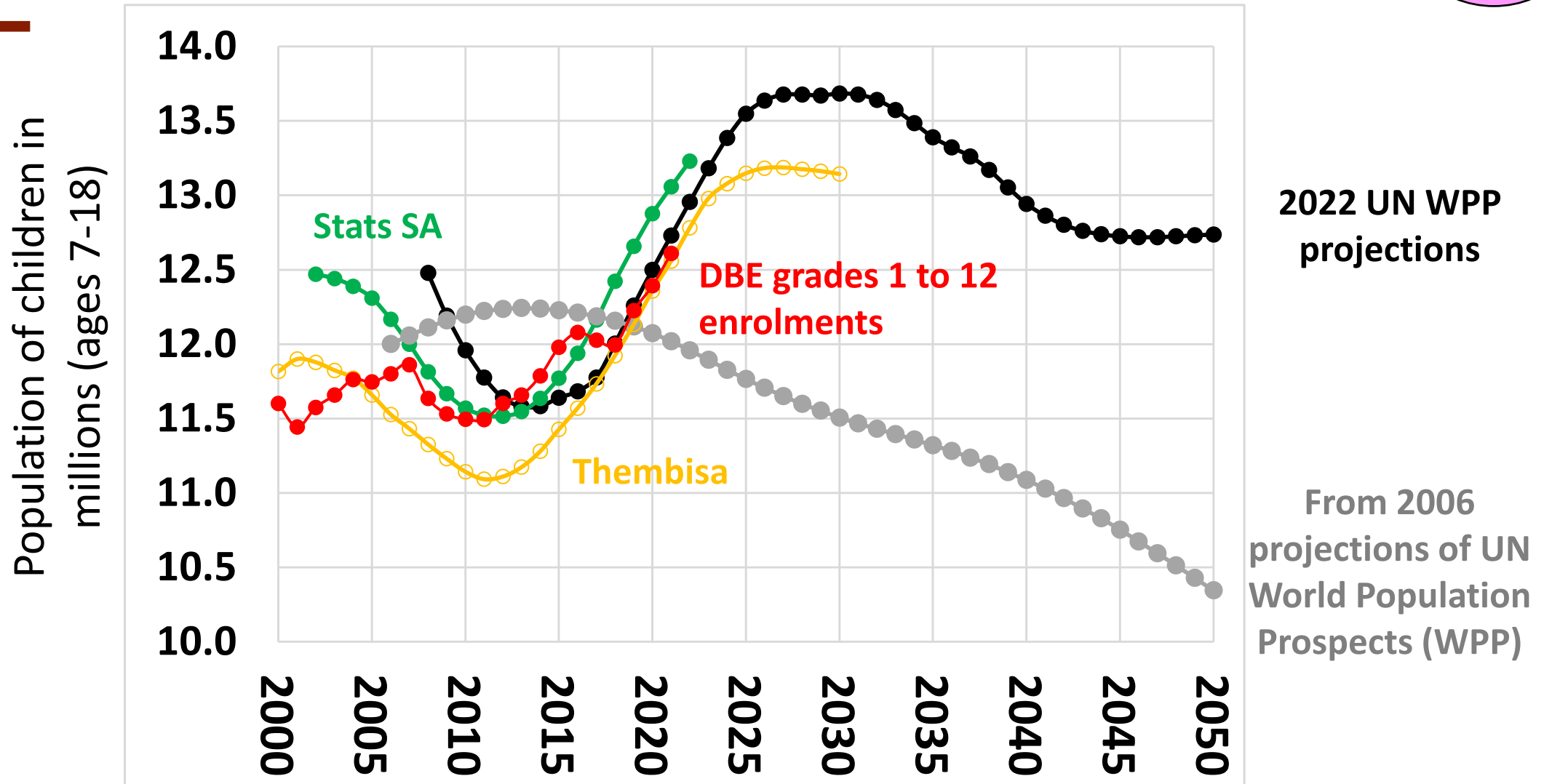
Many more school-age children than we expected

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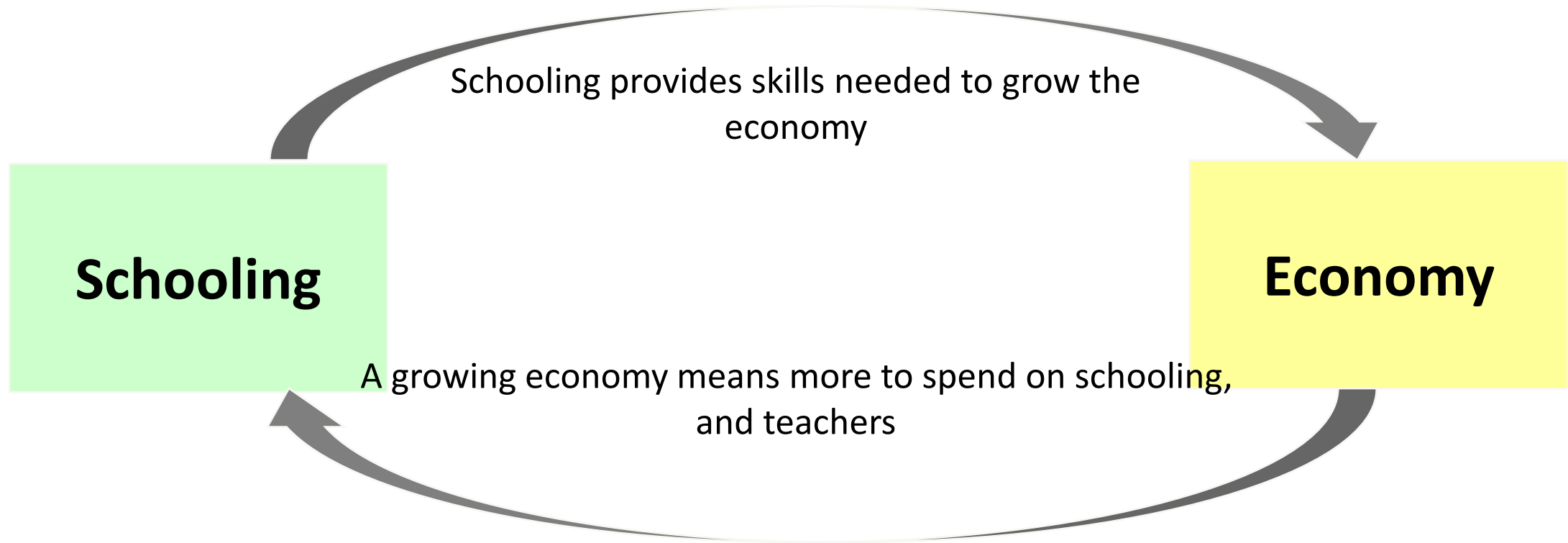


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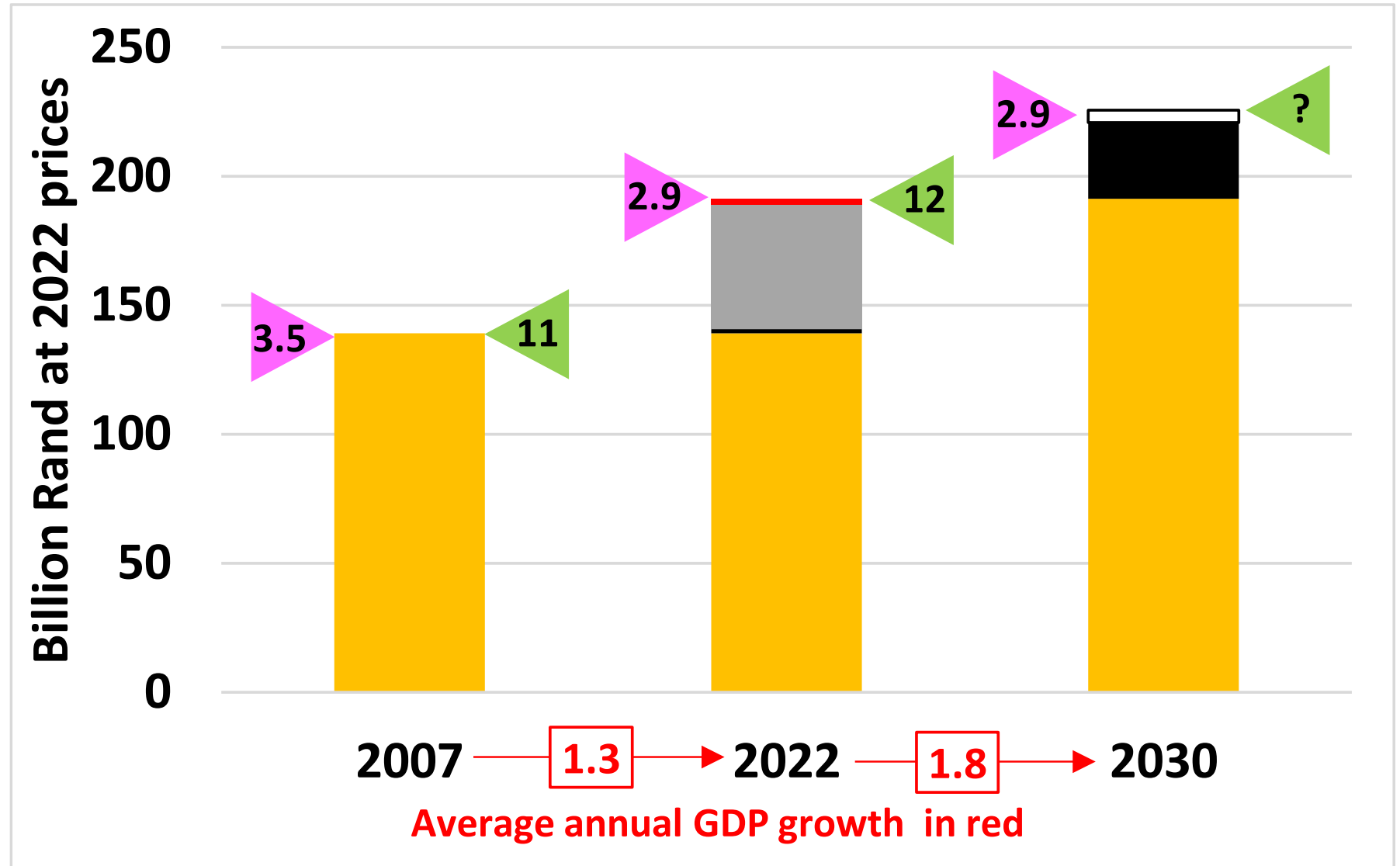
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How much will we be able to spend on educators in future?



Spending on educators, GDP and government non-interest spending

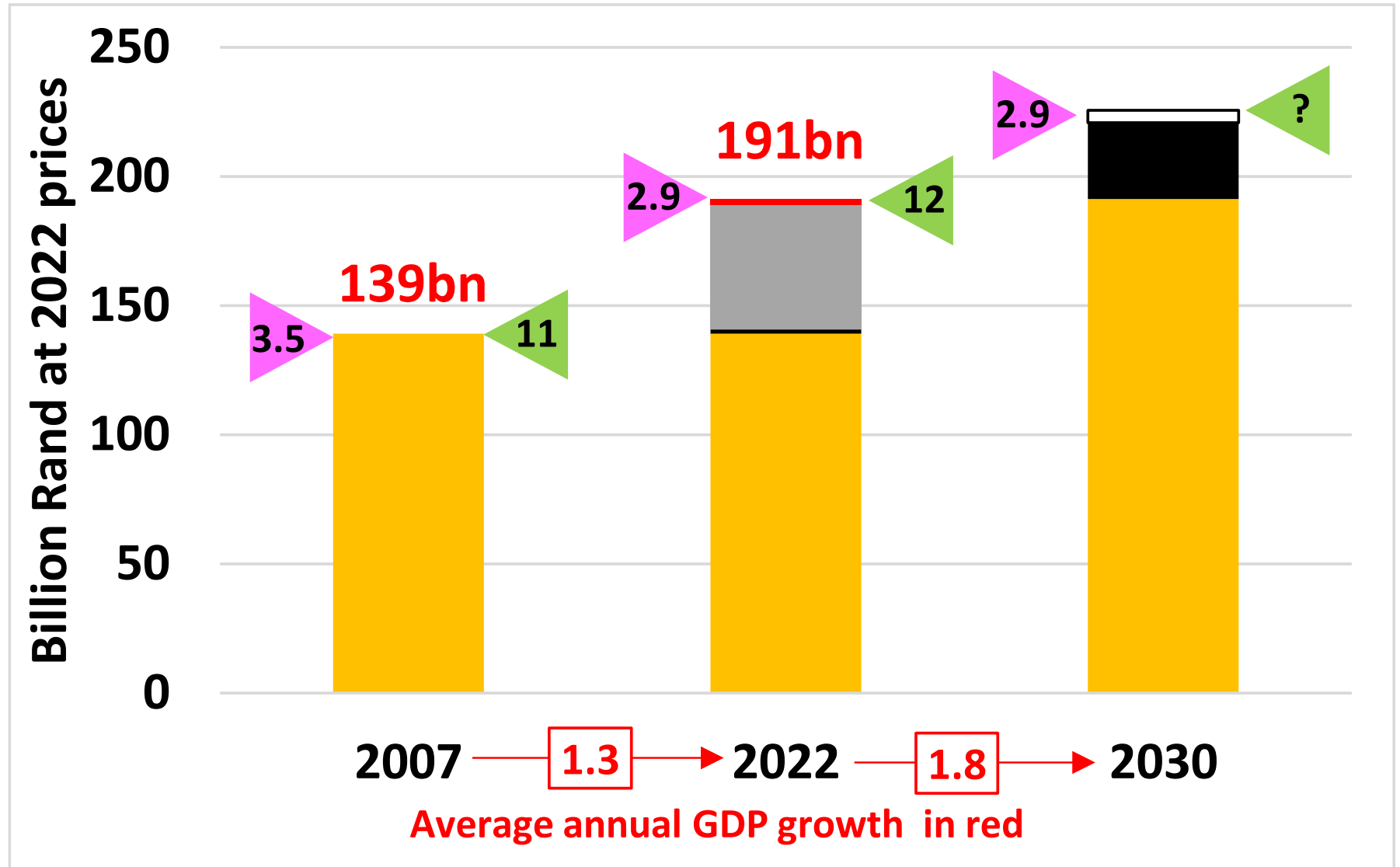


Spending on educators over GDP

Spending on educators over government non-interest spending

Average annual GDP growth in red

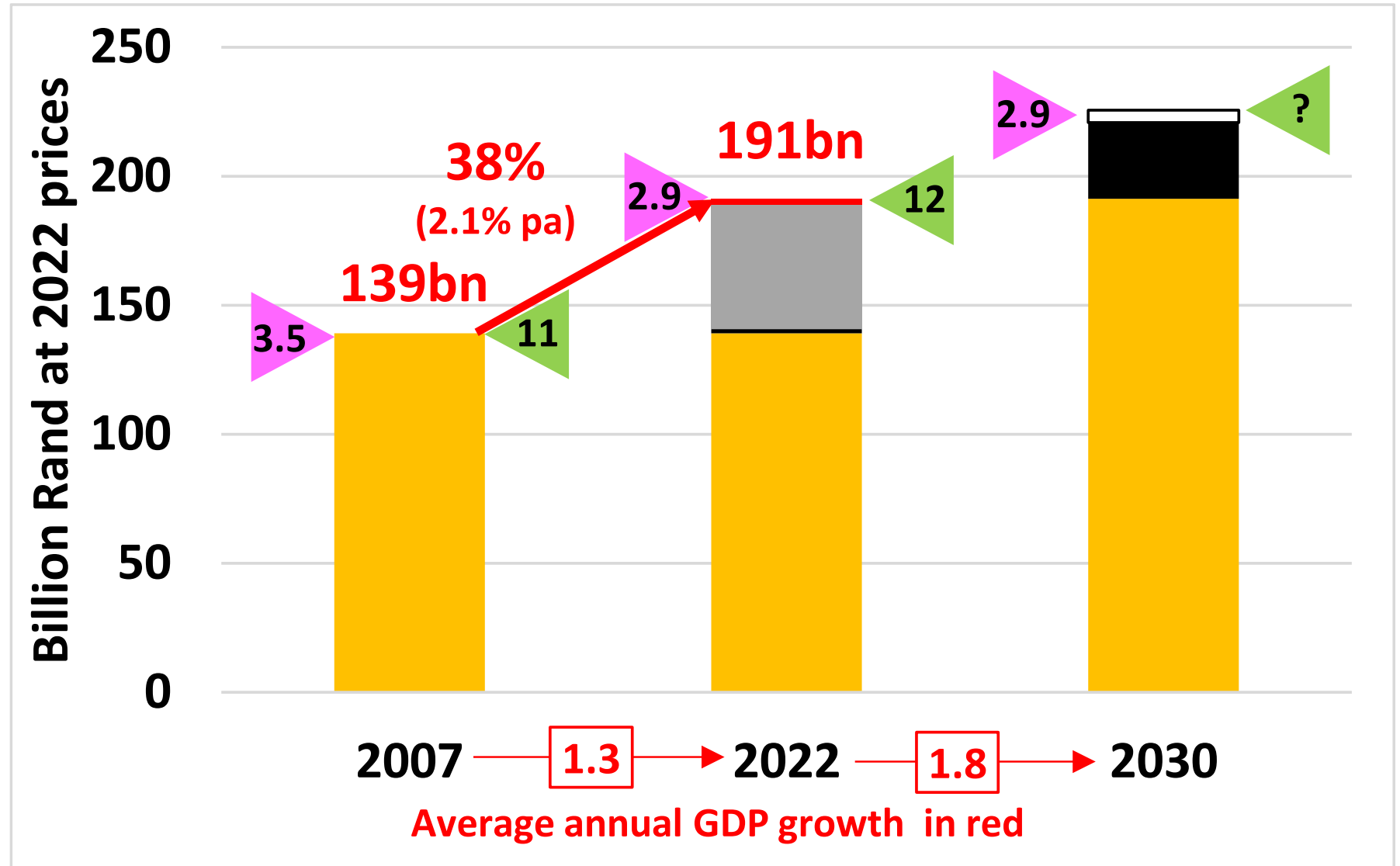
Spending on educators, GDP and government non-interest spending



Spending on educators over GDP

Spending on educators over government non-interest spending

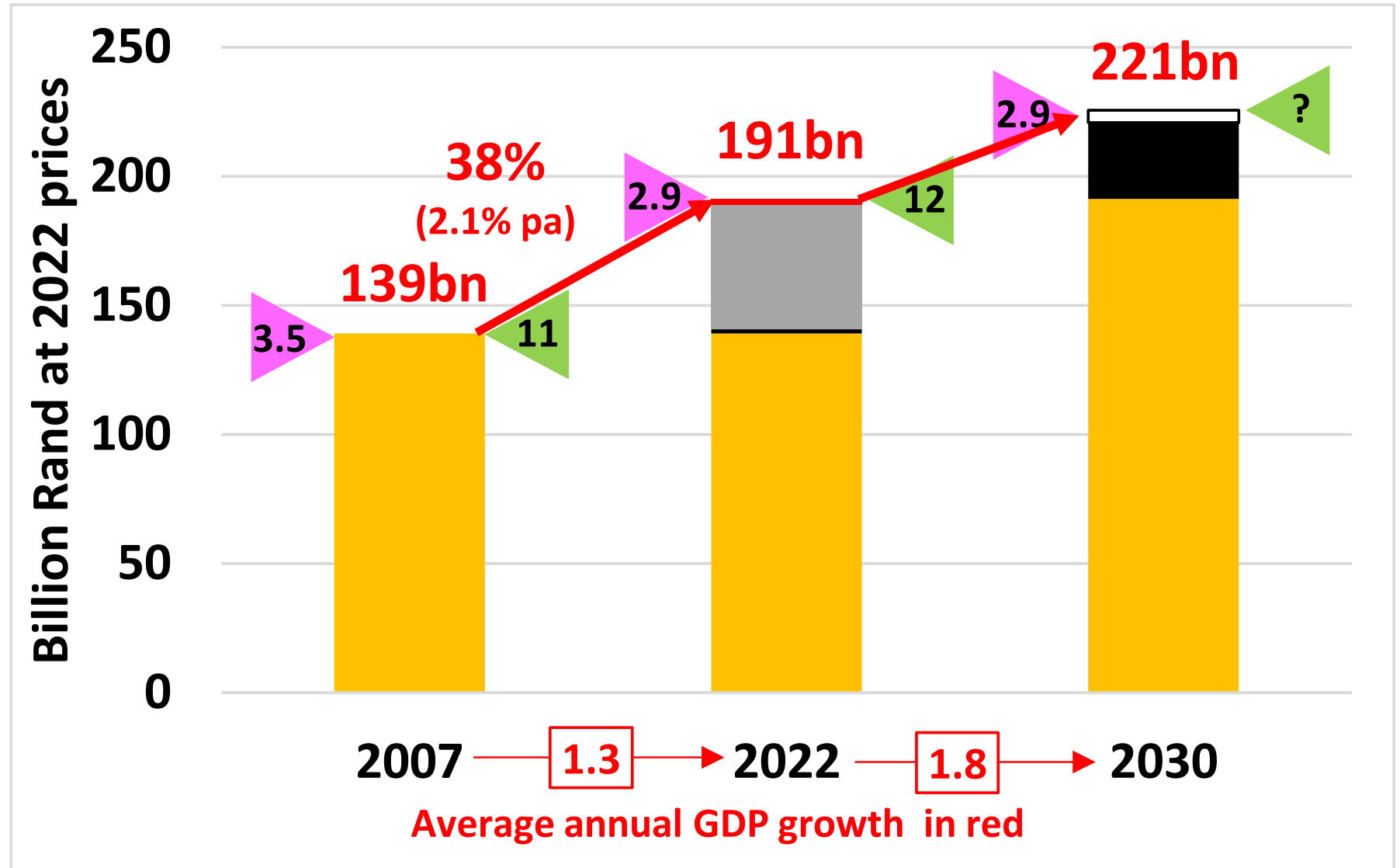
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Spending on educators over GDP

Spending on educators over government non-interest spending

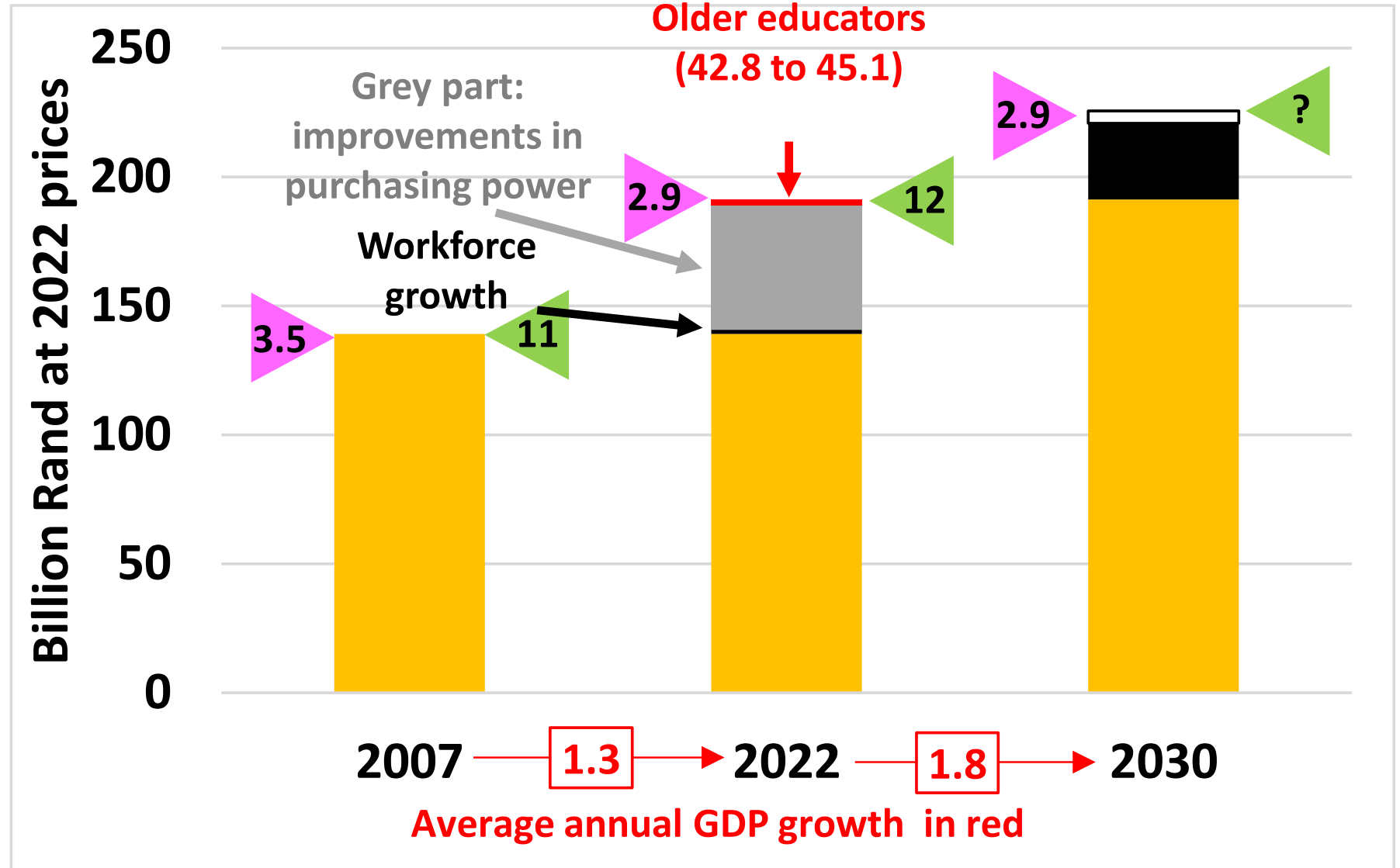
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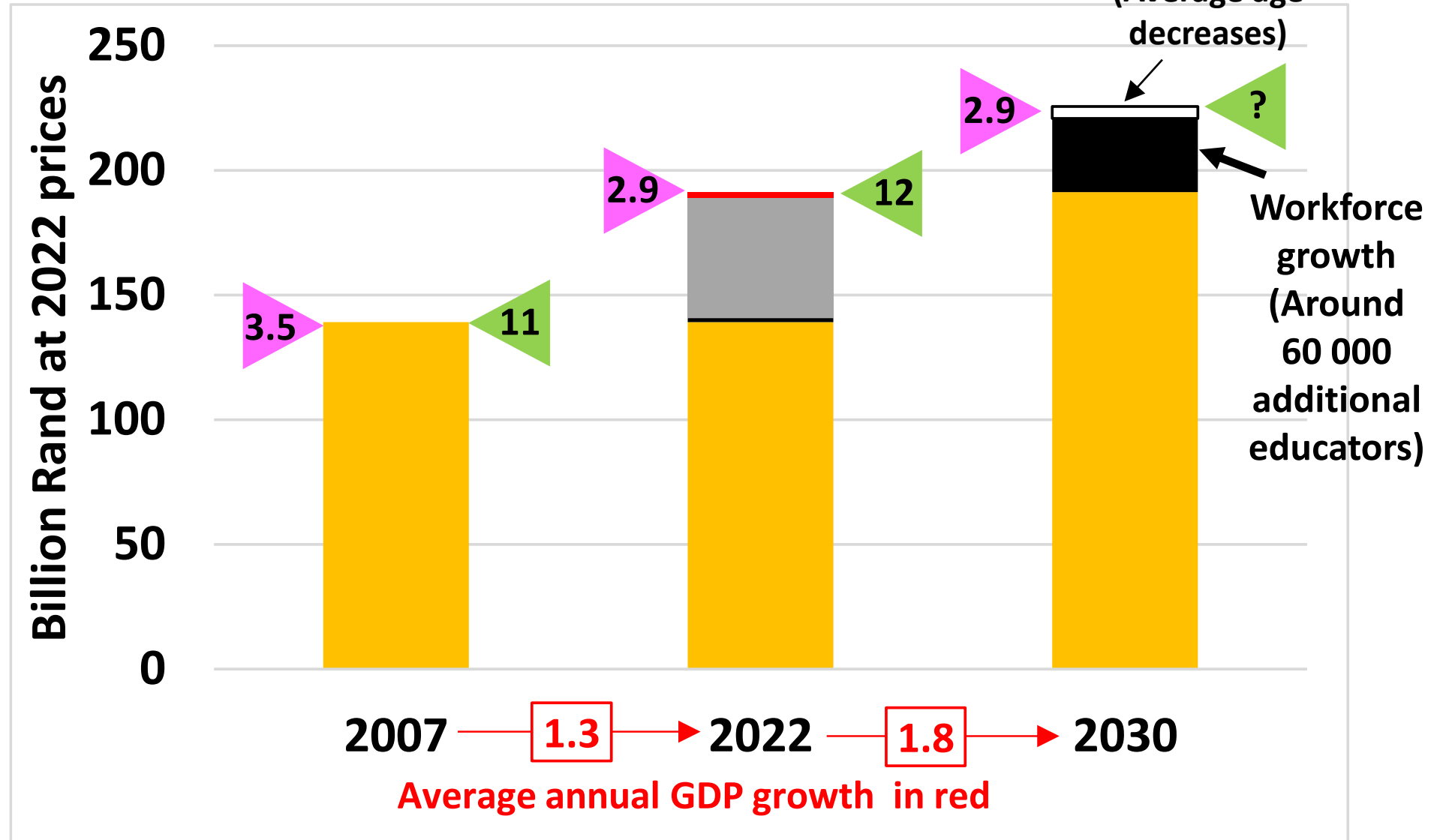
Spending on educators over GDP

Spending on educators over government non-interest spending

Spending on educators, GDP and government non-interest spending



Spending on educators, GDP and government non-interest spending



Spending on educators over GDP

Spending on educators over government non-interest spending

What an LE ratio increase of 1.0 means



Based on analysis of 2015 to 2018 grades 1 to 3 trends

Average class size	Goes up by 1.2
% of learners in classes over 40	Rises e.g. from 49% to 55%, so 6 percentage points , pushing some 200,000 grades 1 to 3 learners over the threshold
% of learners in classes over 50	Rises from e.g. 20% to 23%, so 3 percentage points

Future demand, Workforce size and the Economy

	Now	2030		
		Focus on LE (of → 2011)	Keep LE at → present levels	Constant educators
LE ratio (was 27.4 in 2011)	29.8	27.4	29.8	31.6
Total educators	403 000	467 000	428 000	403 000
Newly graduated teachers	31 000	40 000	33 000	28 000
Above-CPI annual CoL increase	1.8 2015-2019, -2.5 2019-2023	0.0	0.0	0.0
Annual real % increase in unit cost 2022-2030	0.4% 2011-2022	0.0	0.0	0.1
Annual real % increase in total cost 2022-2030	0.8% 2011-2022	1.8	0.8	0.1

Overview

- 1 Age distributions
- 2 Projected retirements & resignations
- 3 Provincial population and enrolment trends
- 4 Public and independent school growth
- 5 Implications for infrastructure, appointments & class sizes
- 6 Educator growth: Teachers and SMT positions
- 7 Expected financial implications to 2030
- 8 Movement of educators: Between and within provinces
- 9 Gender imbalance in school management
- 10 Discussion

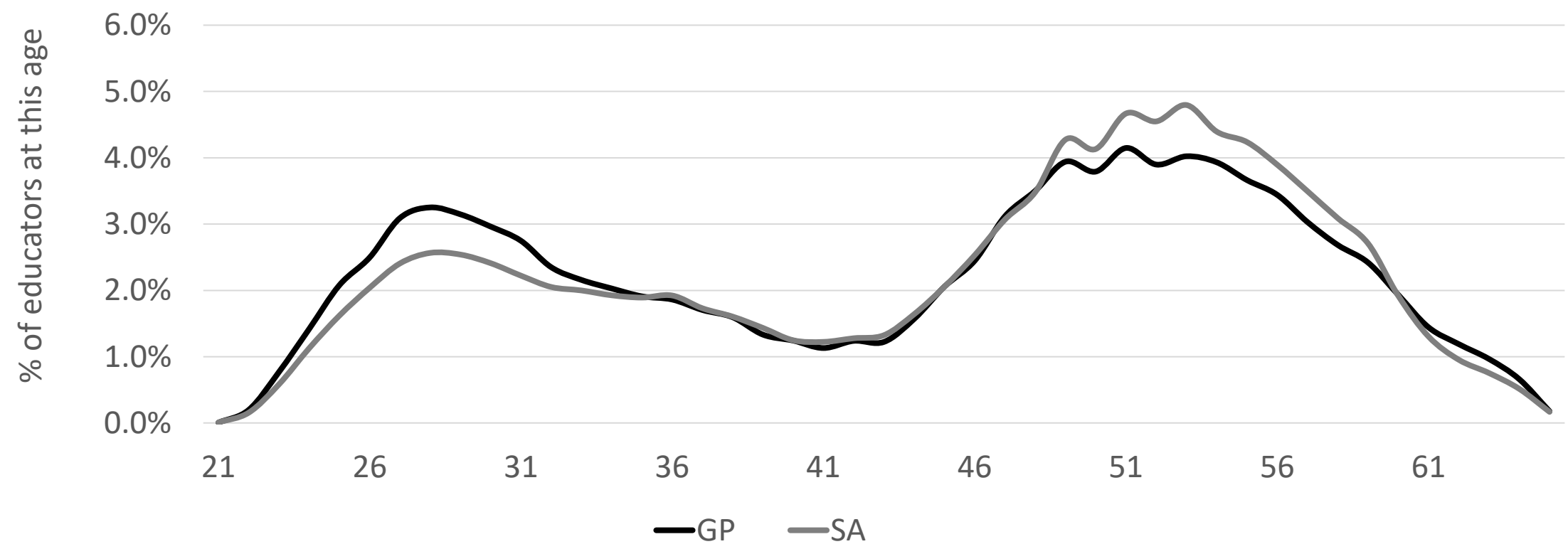
Gauteng educator demand summary

- **Age distribution:** The age distribution in GP had a peak at around 51 years of age in 2021
- **Projected resignations and retirements:** GP will see lower rates of retirements, but high rates of resignations can be expected for younger educators (aged 55 and below)-this is mainly driven by younger educators resigning as the proportion of newly hired younger educators increases
- **Enrolment and population growth:** Enrolment in GP ordinary schools grew by 24% from 2012-2021 (~489K learners), the school-aged population is forecast to grow by 27% (~680K learners) to 2030
- **School and educator growth:** From 2012 to 2021, the educator number in public schools increased but less than enrolment (+21%); school numbers remained almost constant, increasing the LE ratio (excl. SGB)
- **Appointments and LE Ratio:** Increases in appointments are needed in response to enrolment growth; otherwise, the LE ratio will increase further (inc. from 28.5 to 29.2 from 2012 to 2021)
- **Teacher and senior educator changes:** In GP, there has been an increase in the number of teachers (+28%), HODs (+6%), and deputy principals (+11%) from 2012 to 2021, but principal numbers decreased (-10%)
- **Projected educator cost trends:** GP will experience a slight increase in the real average cost of educators (~1%); the real unit cost of teachers will increase by (+2%), and the real unit cost of senior educator educators will decrease by (-3%)
- **Educator movements:** Low movements out of GP (~3%) but high movement into the province (~8%) over 7 year period. The annual attrition rate of younger educators (ages ≤ 50) of about 5% is higher than SA



Age distributions and projected retirements and resignations

Educator age distribution (2021)



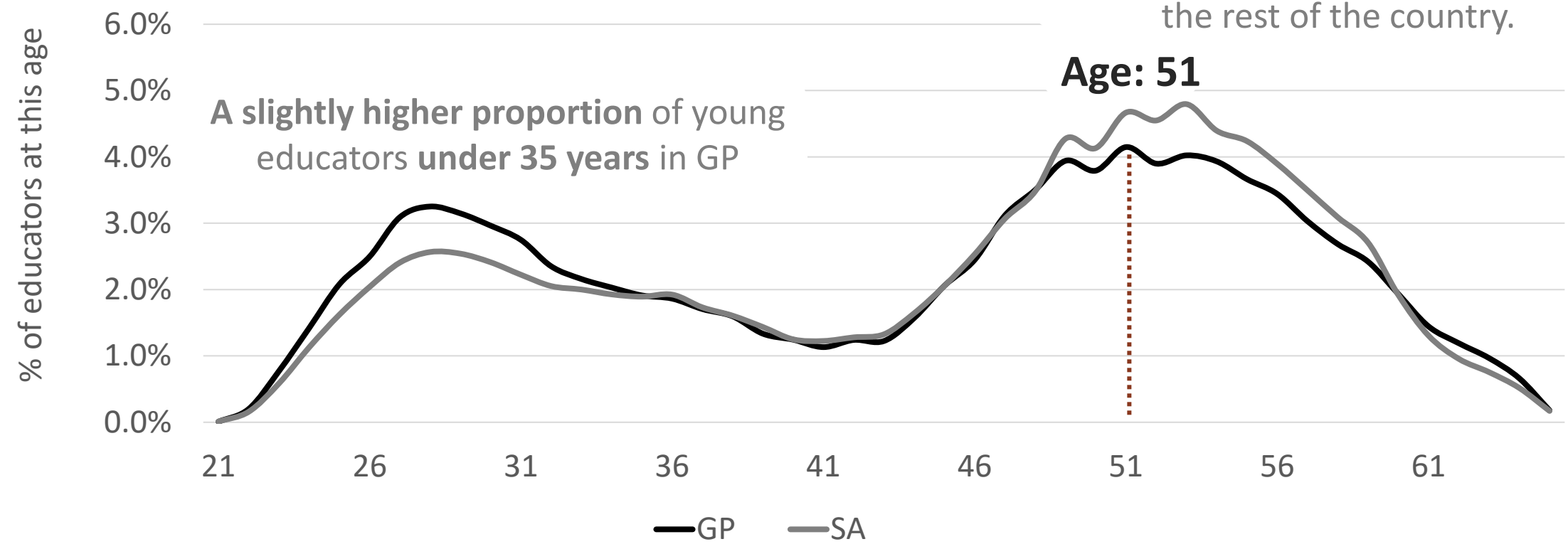
Source: Anonymised PERSAL data from 2021, only educators (Rank 60 000 – 69 999) are considered. ECD practitioners, TVET lecturers and ABET teachers were removed.

Educator age distribution (2021)



A lower proportion of educators are over 50 years old in Gauteng than in the rest of the country.

Age: 51



Source: Anonymised PERSAL data from 2021, only educators (Rank 60 000 – 69 999) are considered. ECD practitioners, TVET lecturers and ABET teachers were removed.

Older teacher proportions for senior educators and primary schools educators

Percentage of educators aged 50+ in 2021

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.

Older teacher proportions for senior educators and primary schools educators

Percentage of educators aged 50+ in 2021

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			
LP			
MP			
NC			
NW			
WC			

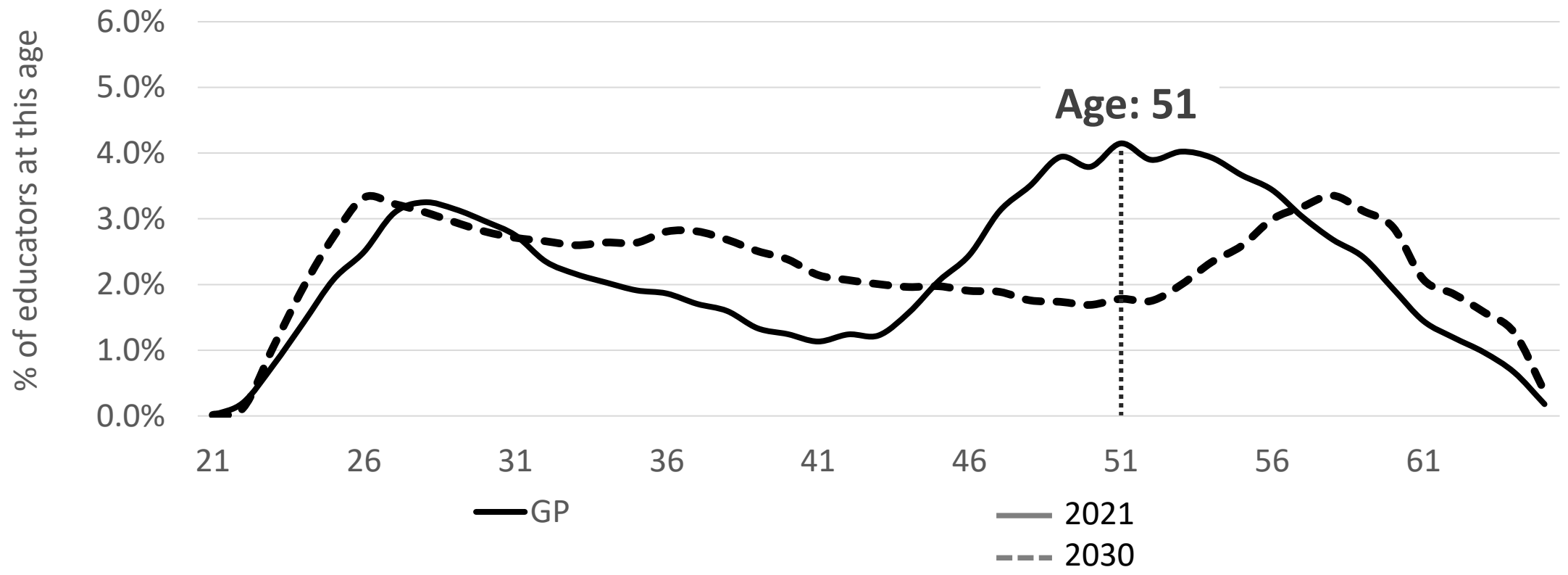
3 Lower proportions (but still
 5 high) of educators are 50+ in GP
 5 than in SA, this is also true for
 4 primary schools and for SMT
 4 positions and education
 4 specialists

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.

Educator age distribution in 2021 & 2030



Assume constant 2021 educator numbers

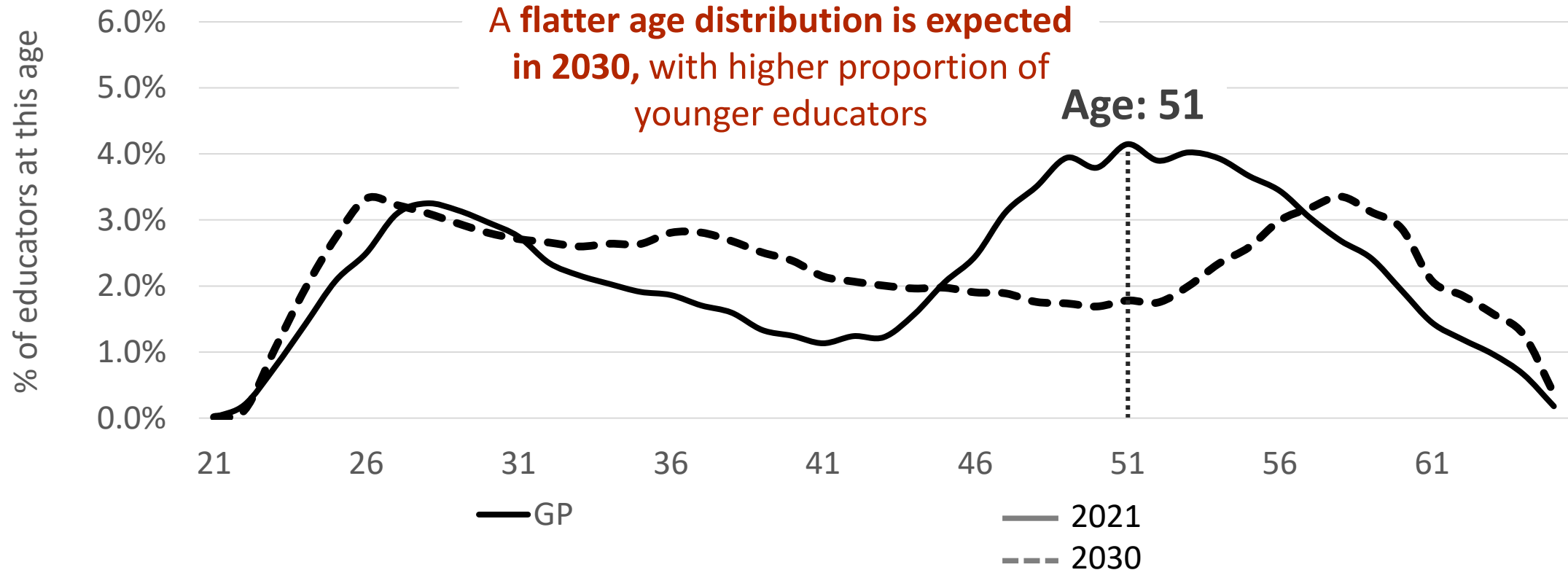


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Educator age distribution in 2021 & 2030



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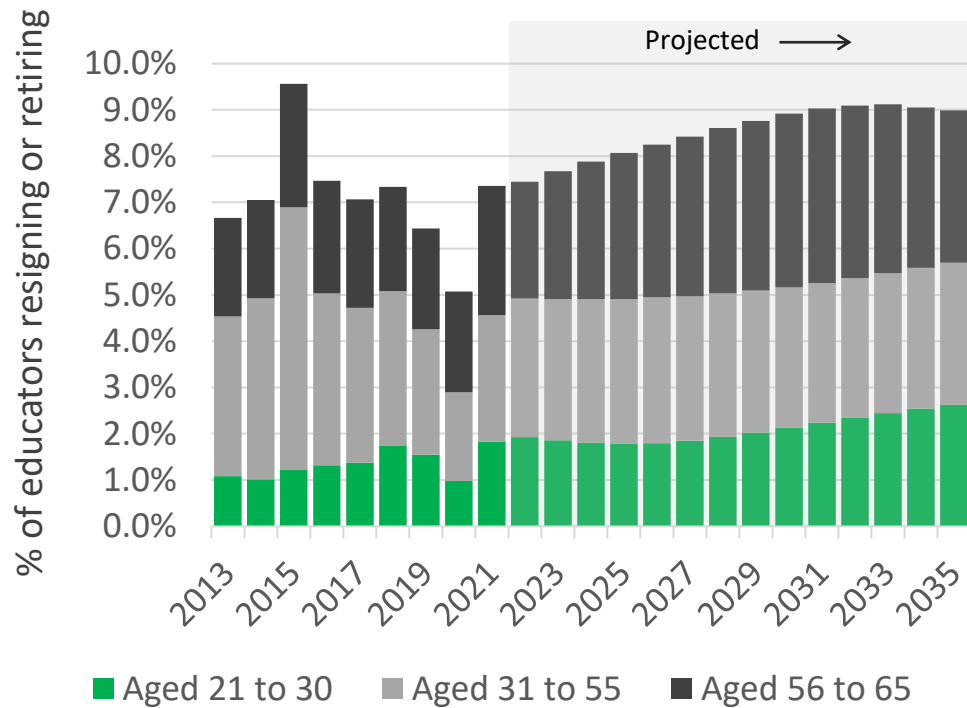


Source: Anonymised PERSAL data from 2021, only educators (Rank 60 000 – 69 999) are considered. ECD practitioners, TVET lecturers and ABET teachers were removed.

Projected resignation & retirements (GP)

Assume constant 2021 educator numbers

Proportion of Educators



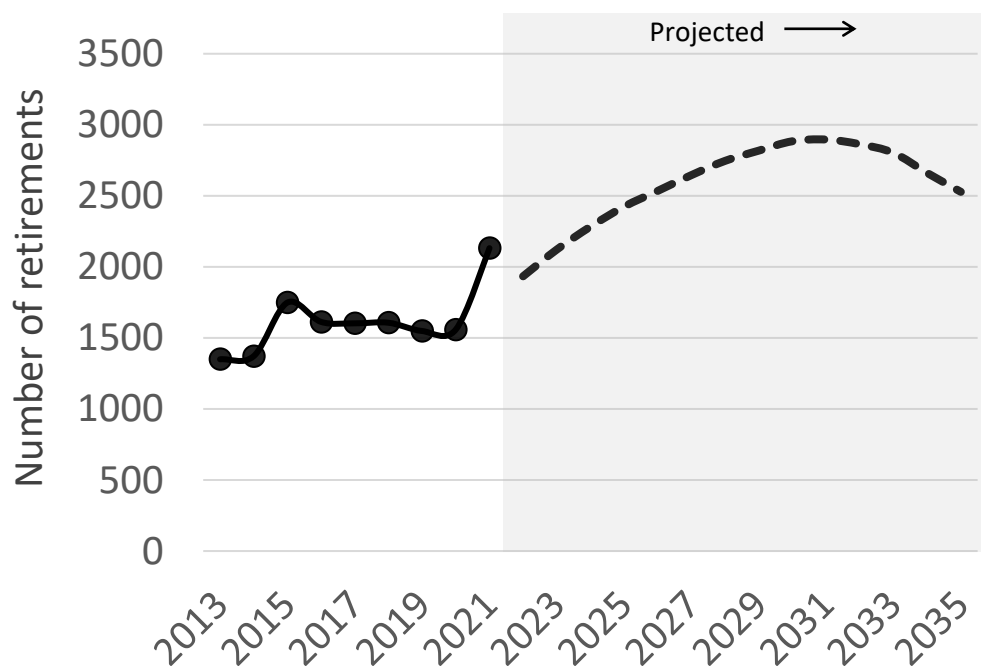
- The majority of educators that exit PERSAL in Gauteng are resigning (ages 55 or below)
- The retirement number rises and peaks in 2030 and 2031 but remains smaller than resignations
- The number of young teachers (ages 21-30) resigning is projected to increase as the number of newly hired young teachers increases.

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.

Projected resignation & retirements (GP)

Assume constant 2021 educator numbers

Retirement headcount



- The number of retirements is projected to increase, peaking in ~2030 & 2031 and then declining again
- The number of retirements is projected to increase from just under 2,000 in 2022 to just under 3,000 in 2031, an increase of about 1,000 retirements annually

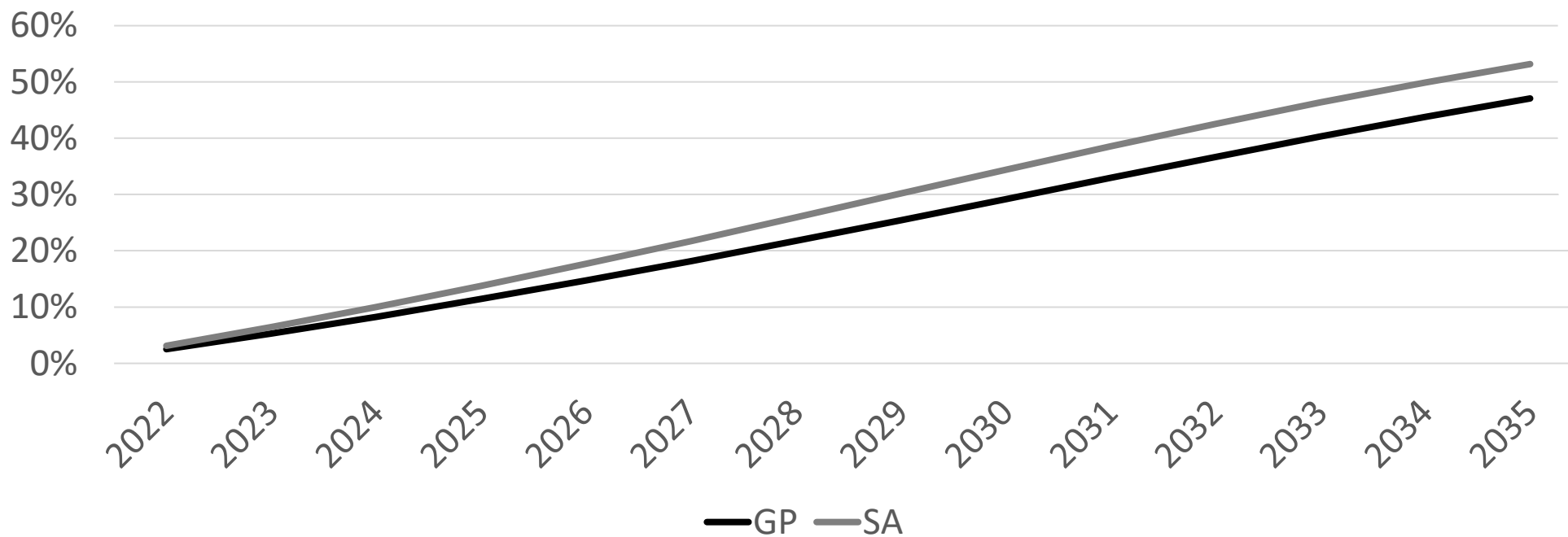
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Older leaver trend estimates to 2035



Assume constant 2021 educator numbers

Cumulative proportion of estimated leavers aged 56-65 as a proportion of total educators in 2022



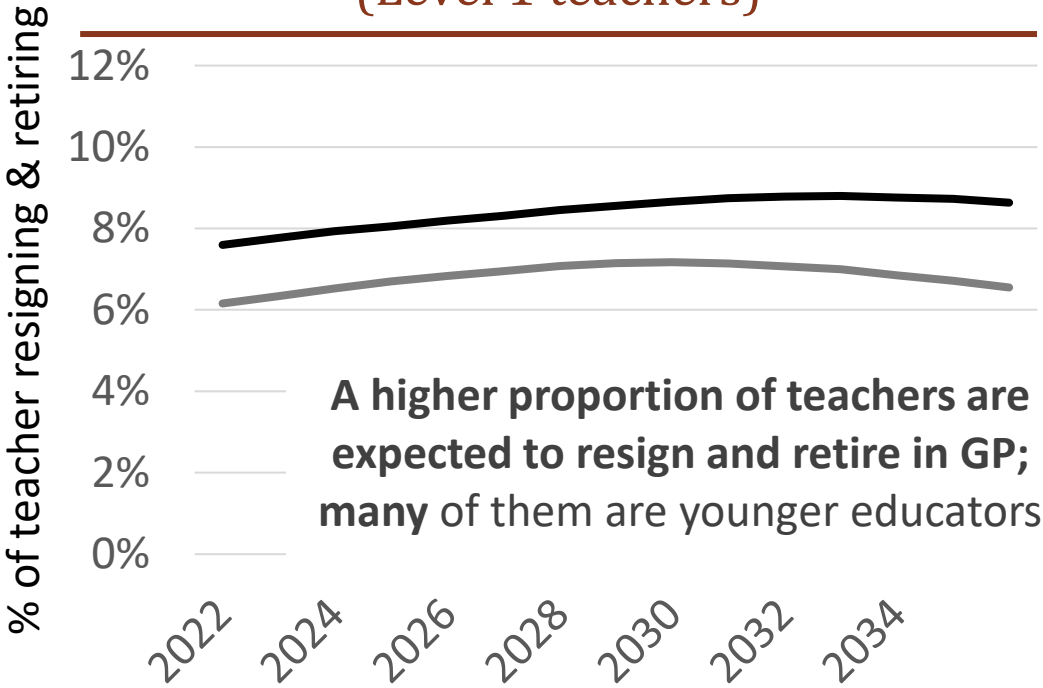
About 36,000 educators estimated to retire by 2035 in the GP (47% of total educators in 2021)

Source: Anonymised 2021 PERSAL data, 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 models – assumption of no growth in educator numbers.

Projected educators leaving

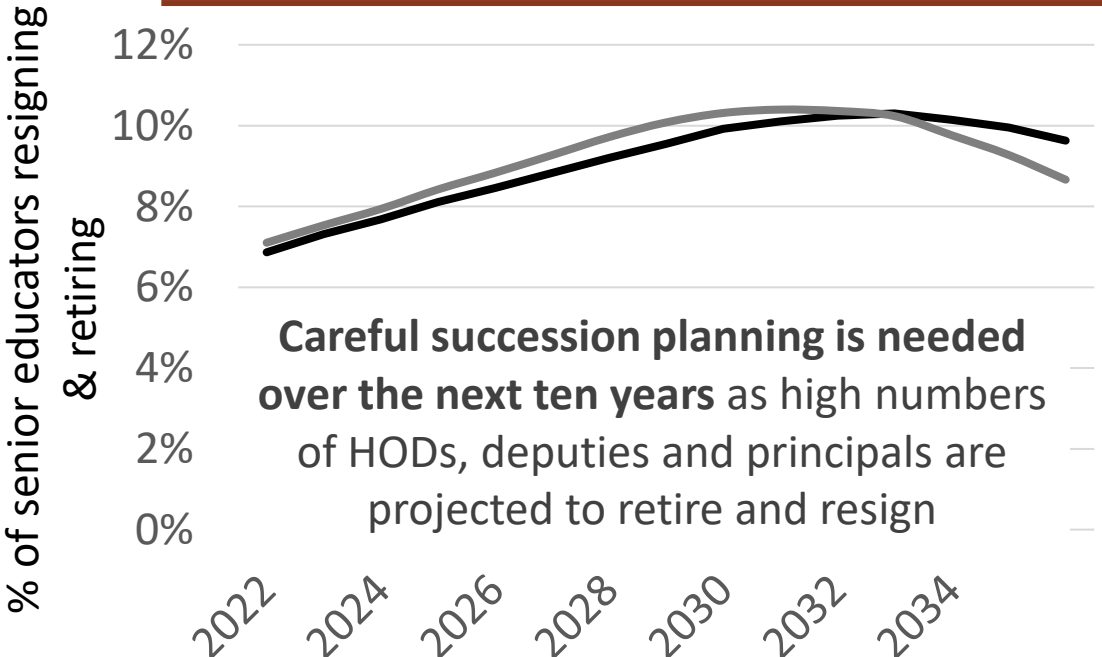
Assume constant 2021 educator numbers

Teachers (Level 1 teachers)



A higher proportion of teachers are expected to resign and retire in GP; many of them are younger educators

Senior educators (HODs, Deputy's, Principals & Other)



Careful succession planning is needed over the next ten years as high numbers of HODs, deputies and principals are projected to retire and resign

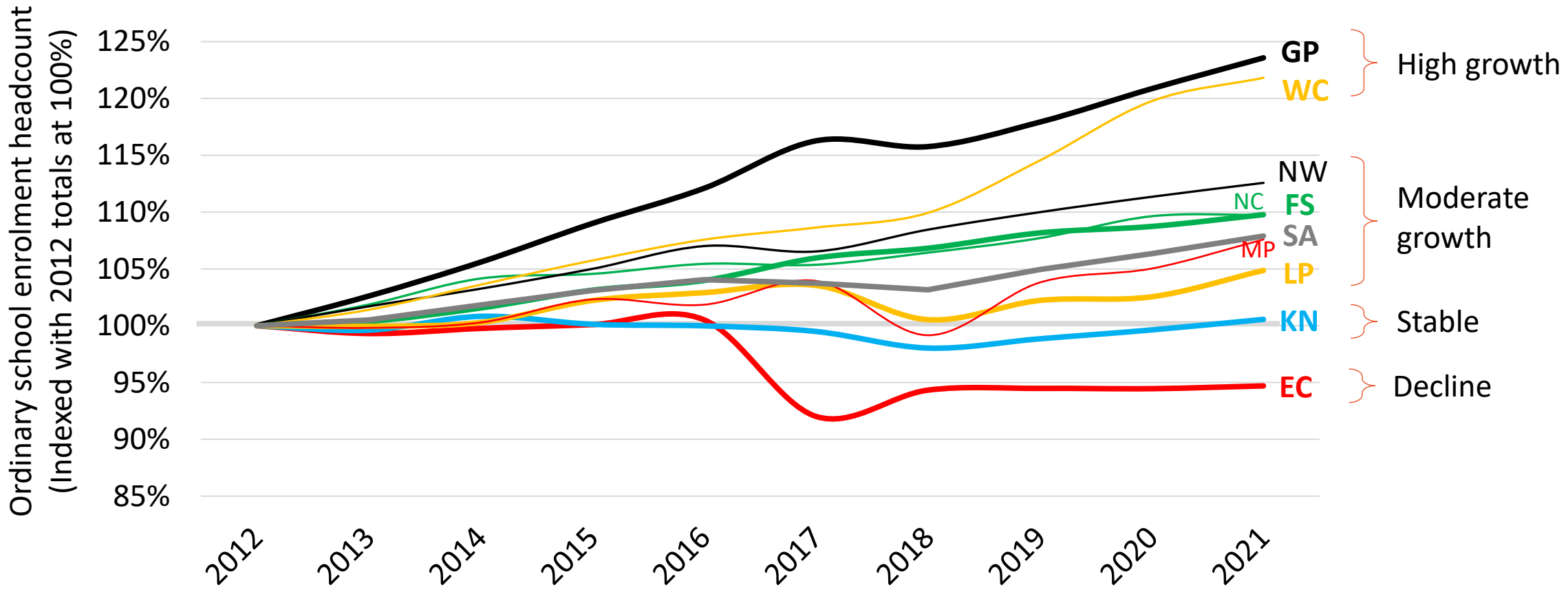
— GP — SA

Source: Anonymised 2021 PERSAL data, 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 models – assumption of no growth in educator numbers.



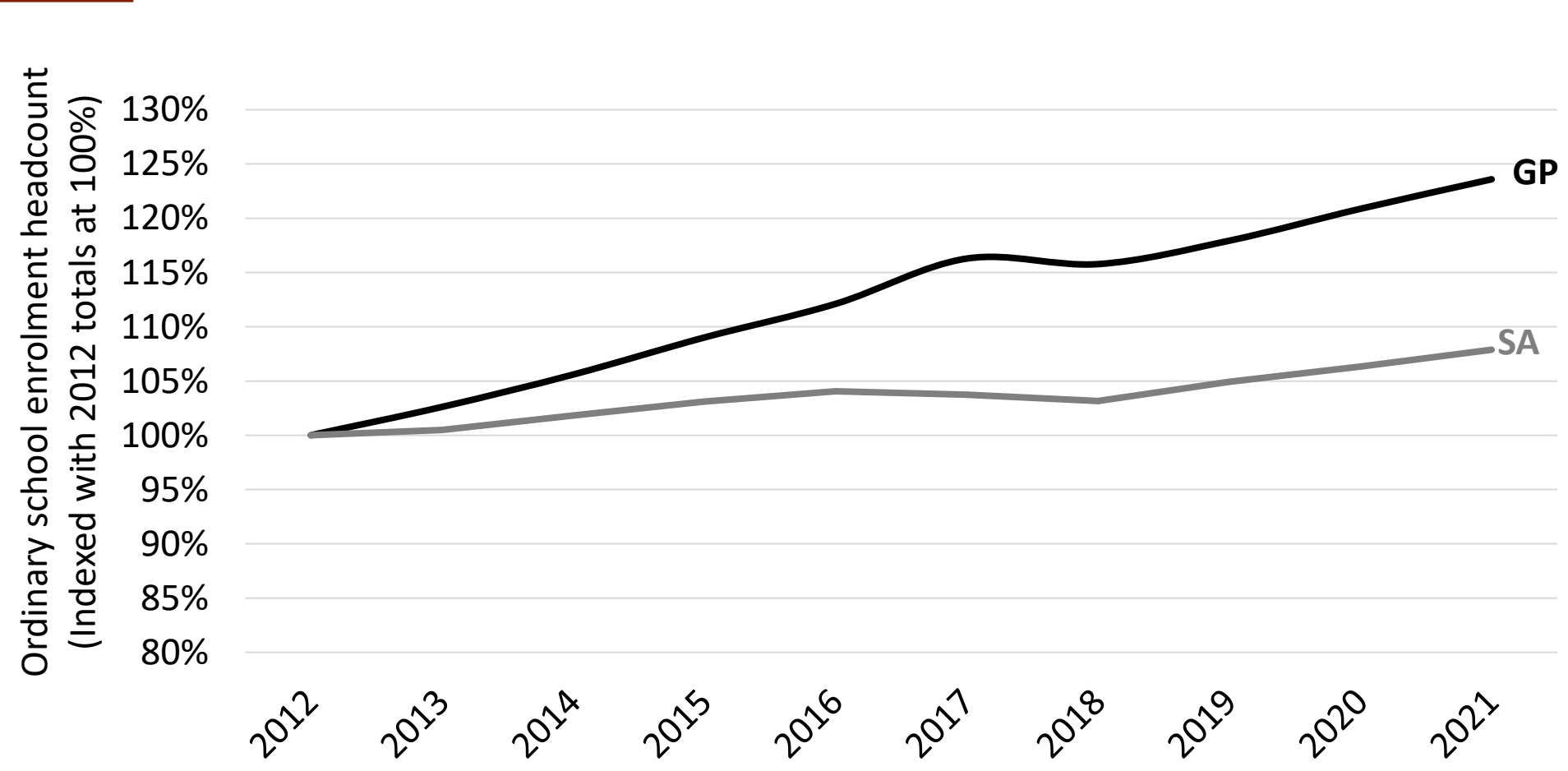
Provincial population and enrolment trends

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.

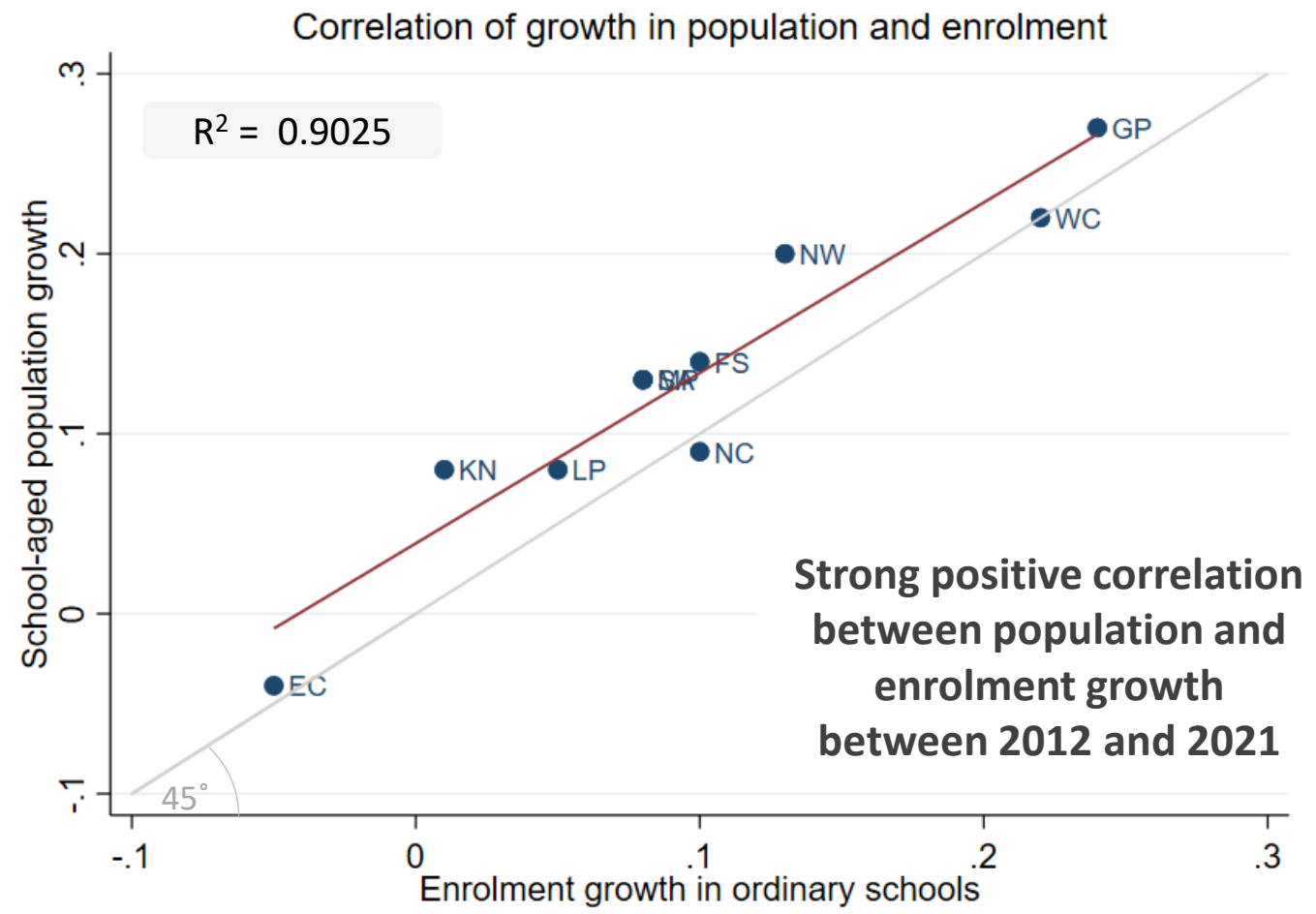
Provincial enrolment trends (2012-2021)



Enrolment in Gauteng ordinary schools grew by **24%** from 2012 to 2021

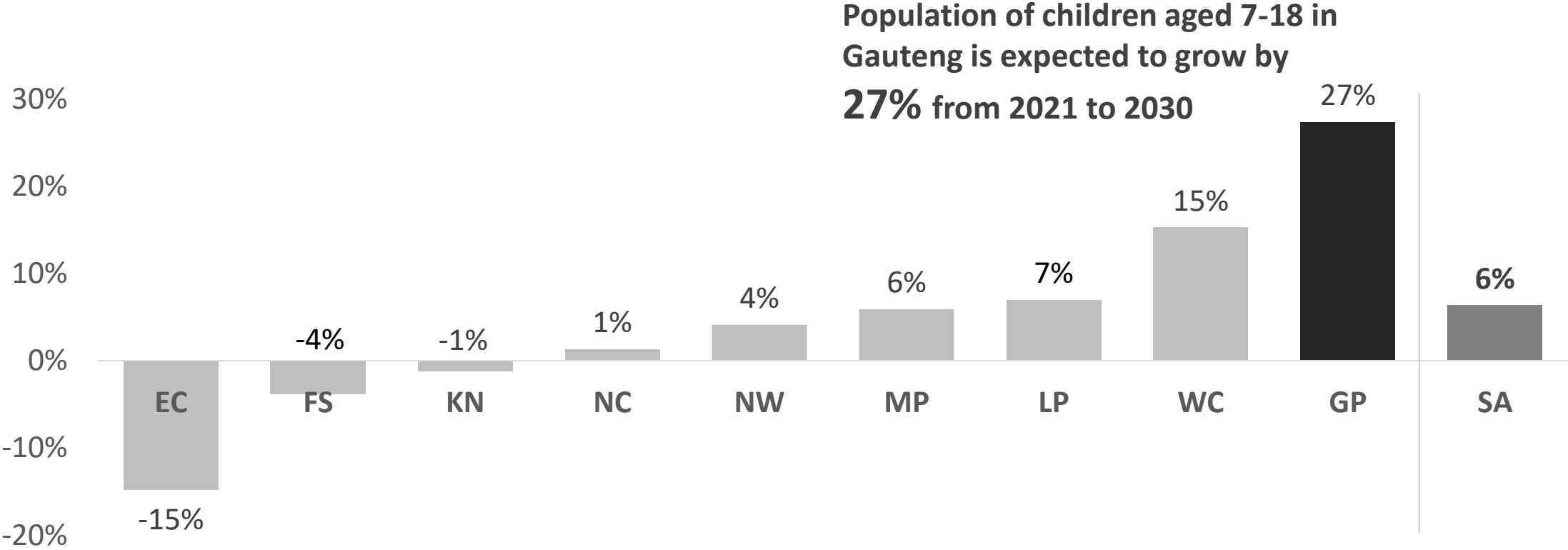
Source: Enrolment numbers taken from School Realities-EMIS (2012 – 2021) released by the DBE, using total numbers for ordinary public and independent schools.

Correlation between population and enrolment growth (2012-2021)



Source: Thembisa age specific data V4.5 for school-aged population (Ages 7-18) estimates and enrolment taken from School Realities-EMIS (2012 – 2021) released by the DBE, for numbers on ordinary public and independent schools ([Statistical Publications \(education.gov.za\)](http://StatisticalPublications.education.gov.za))

Projected growth in school-aged population

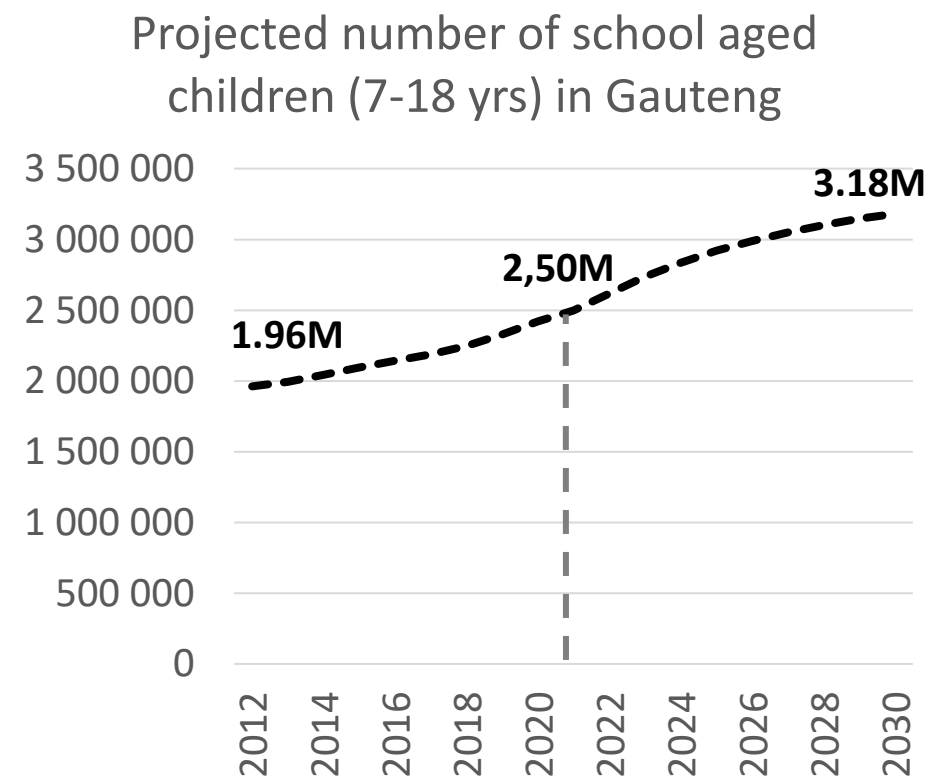


Note: Period 2021 – 2030 is the same timeframe, nine years, as 2012 – 2021.

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

School aged-population estimates to 2030

Province	Number of children Aged 7-18			Growth '12-21	Growth '21-30
	2012	2021	2030E		
EC	1 657 202	1 598 475	1 361 637	-4%	-15%
FS	592 445	676 489	650 820	14%	-4%
GP	1 962 793	2 498 533	3 180 884	27%	27%
KN	2 485 822	2 690 378	2 657 716	8%	-1%
LP	1 395 864	1 507 386	1 612 125	8%	7%
MP	977 749	1 100 594	1 165 728	13%	6%
NC	254 075	277 560	281 208	9%	1%
NW	742 943	893 530	930 323	20%	4%
WC	1 068 009	1 298 801	1 496 731	22%	15%
Total	11 136 902	12 541 746	13 337 172	13%	6%



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

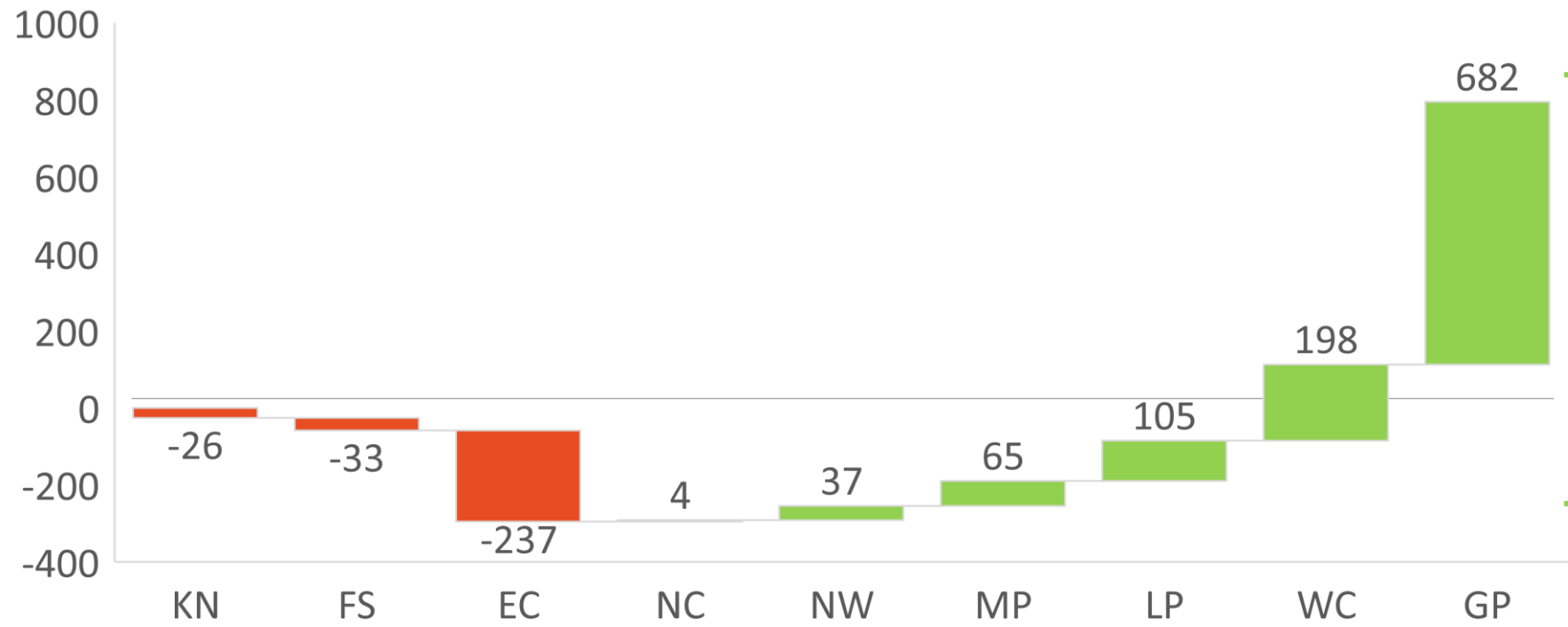
Source: Thembisa age-specific estimates from the model V4.5 for children aged 7-18 by province

School-aged population estimates to 2030



Change in number of school-aged children (in thousands of children)

Projected change in school-aged population (in thousands) from 2021 to 2030



63%
of all provincial population headcount growth is projected to take place in Gauteng (in-migration)

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



Public and independent school growth

Educator, school and enrolment growth



Province	% growth from 2012 - 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
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%

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 \(education.gov.za\)](https://www.education.gov.za))

Educator, school and enrolment growth



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GP	21%	28%	1%	20%	24%	27%
KN	5%	3%	3%	1%	1%	8%
LP						
MP						
NC						
NW	2%	4%	-9%	12%	13%	20%
WC	12%	22%	0%	21%	22%	22%
SA	-1%	2%	-6%	7%	8%	13%

Enrolment and educator numbers grew in Gauteng, whilst the number of public ordinary schools remained almost constant....

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 \(education.gov.za\)](https://www.education.gov.za))

Educator, school and enrolment growth



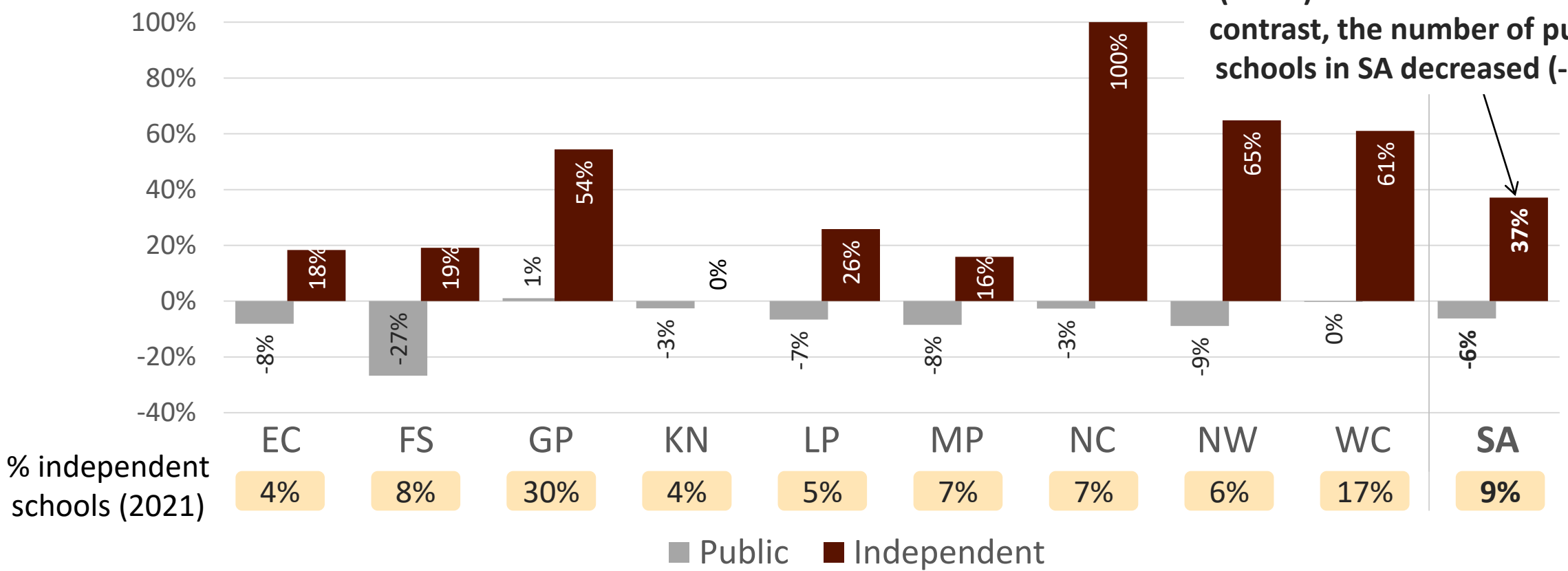
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FS	-13%	-13%	-27%	9%	10%	14%
GP	21%	28%	1%	20%	24%	27%
KN						
LP	The increase in the number of educators in Gauteng appears to be responsive to growth in enrolment....					
MP						
NC						
NW	2%	4%	-9%	12%	13%	20%
WC	12%	22%	0%	21%	22%	22%
SA	-1%	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 \(education.gov.za\)](https://www.education.gov.za))

School growth from 2012 to 2021



School growth was driven by independent school growth (+37%) from 2012 to 2021. In contrast, the number of public schools in SA decreased (-6%)

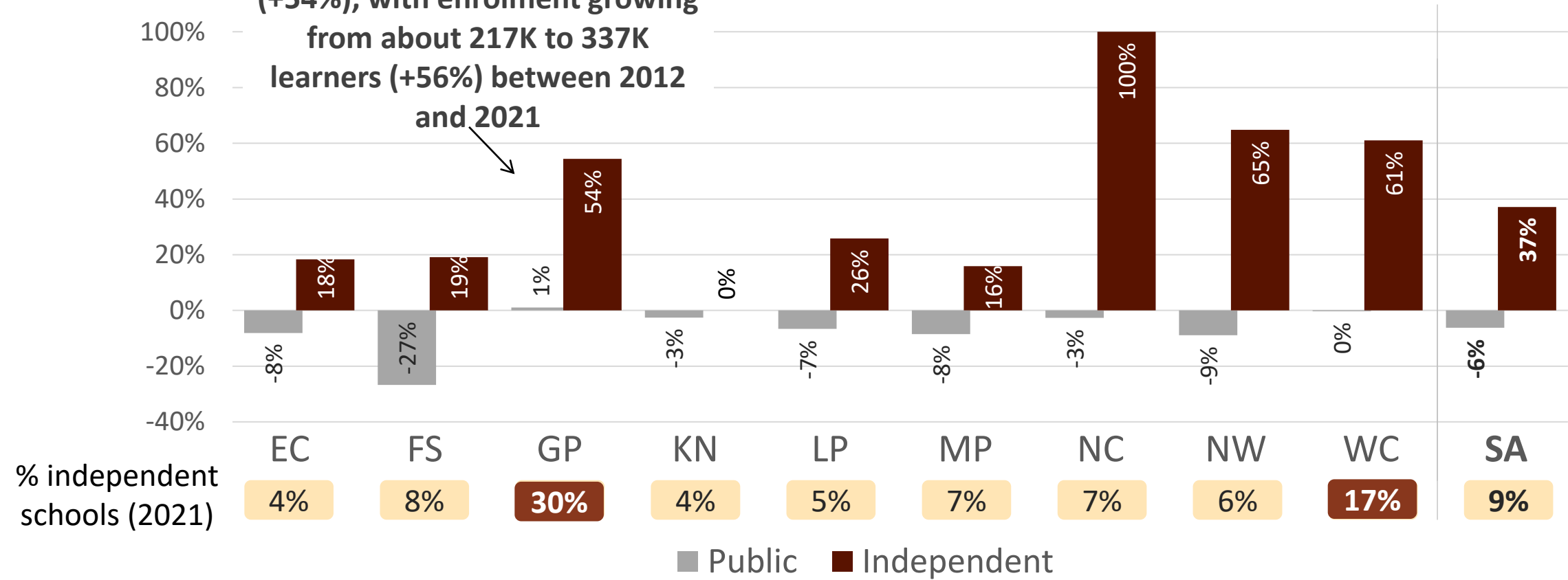


Source: School numbers taken from School Realities-EMIS (2012 – 2021) released by the DBE, for numbers on ordinary public and independent schools ([Statistical Publications \(education.gov.za\)](https://www.education.gov.za))

School growth from 2012 to 2021



High growth in the number of independent schools in GP (+54%), with enrolment growing from about 217K to 337K learners (+56%) between 2012 and 2021

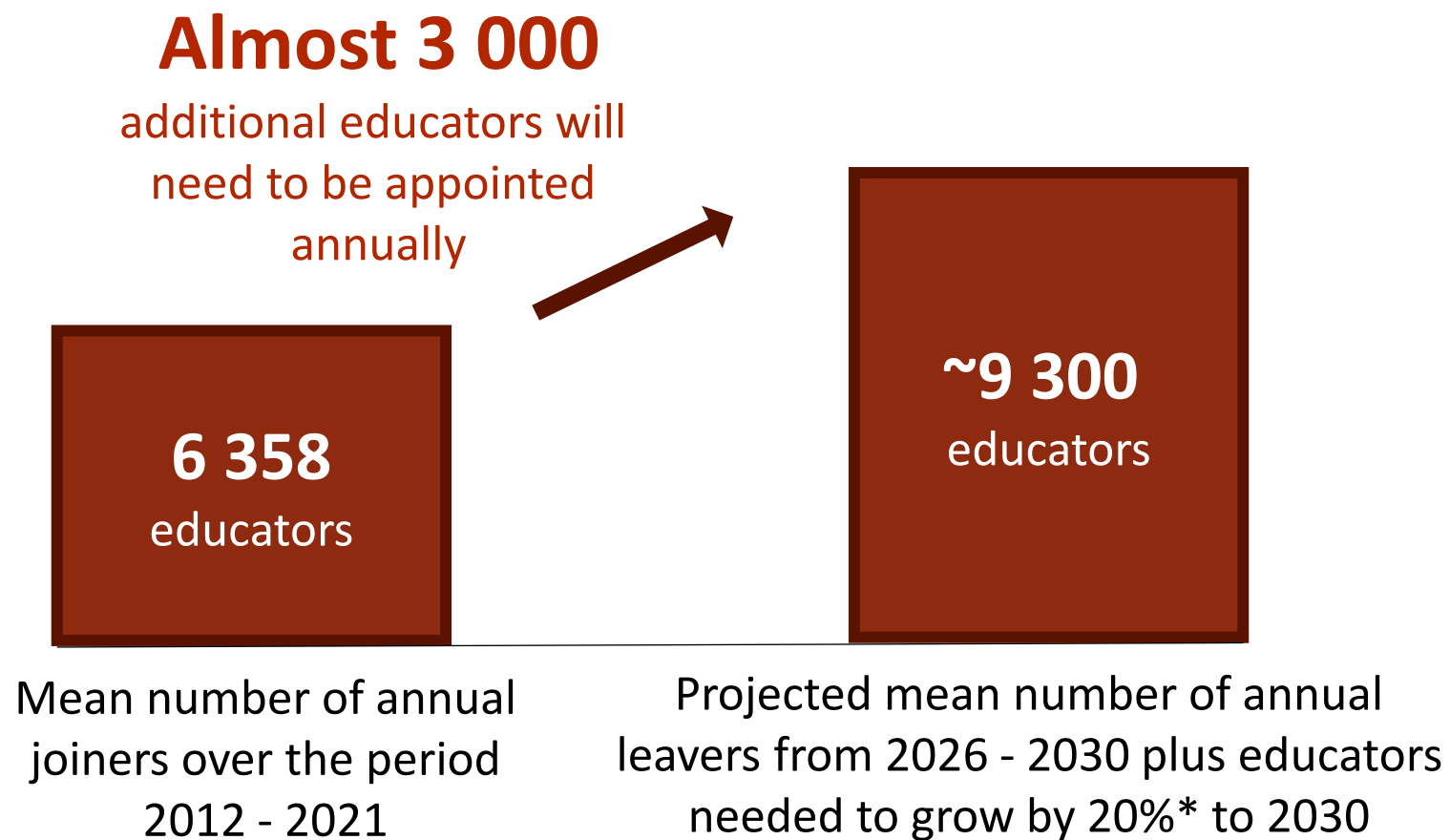


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Implications on appointments, infrastructure & class sizes

Projected increase in appointments



- Large and sustained increase in expected annual appointments over the period 2026 -30 relative to 2012-21
- Increase is due to expected growth in the workforce and higher rates of replacement due to retirement and high churn among younger educators
- Sourcing and appointment processes will need to be strengthened

*Assumes total educator numbers increase by ~1 700 educators annually between 2022 - 2030

Ongoing GP school infrastructure projects

New demand and backlog

- Replacement Schools
 - 29 Schools built from Asbestos (Inappropriate Material)
 - 87 Whole Mobile Schools
- Classroom Shortages at existing schools to reduce overcrowding
 - 723 schools have a shortage of 5 554 classrooms of which 3 166 are primary schools while 2 388 are secondary schools.
- New Schools
 - The immediate shortage/ backlog in new townships are 132 new schools are required, i.e. 75 primary schools and 57 secondary schools.
 - 88 schools are required in areas where there are new high-density middle-income housing developments.
 - Data related to admissions indicate that a total of 27 new schools are required on an annual basis.

- The 2023/24 conditional grant amounts to **R3.2 billion**
- **R 1,7billion** has been allocated to the Education infrastructure Grant

*From 2023/24 from GED
Budget speech, 28 May 2023*

From a presentation delivered by Albert Chanee on 06 Sep 2023 at STIAS

Sources: <https://www.gtac.gov.za/wp-content/uploads/2022/07/Gauteng-Schools-Friday-webinar.pdf> ; <https://www.iol.co.za/education/gauteng-department-of-education-announces-202324-budget-plans-72d4ebca-2624-49dc-96db-e63f8173cf04>

Ongoing GP school infrastructure projects



Budget Facility for Infrastructure

- R1,5 billion to build 18 schools over the next three years
- Many are addressing backlog

Provincial Public Works

- 35 new schools in the planning phase
- 17 schools are planned for delivery in the next three

DBSA

- 8 schools being built over the next three years

- The 2023/24 conditional grant amounts to **R3.2 billion**
- **R 1,7billion** has been allocated to the Education infrastructure Grant

*From 2023/24 from GED
Budget speech, 28 May 2023*

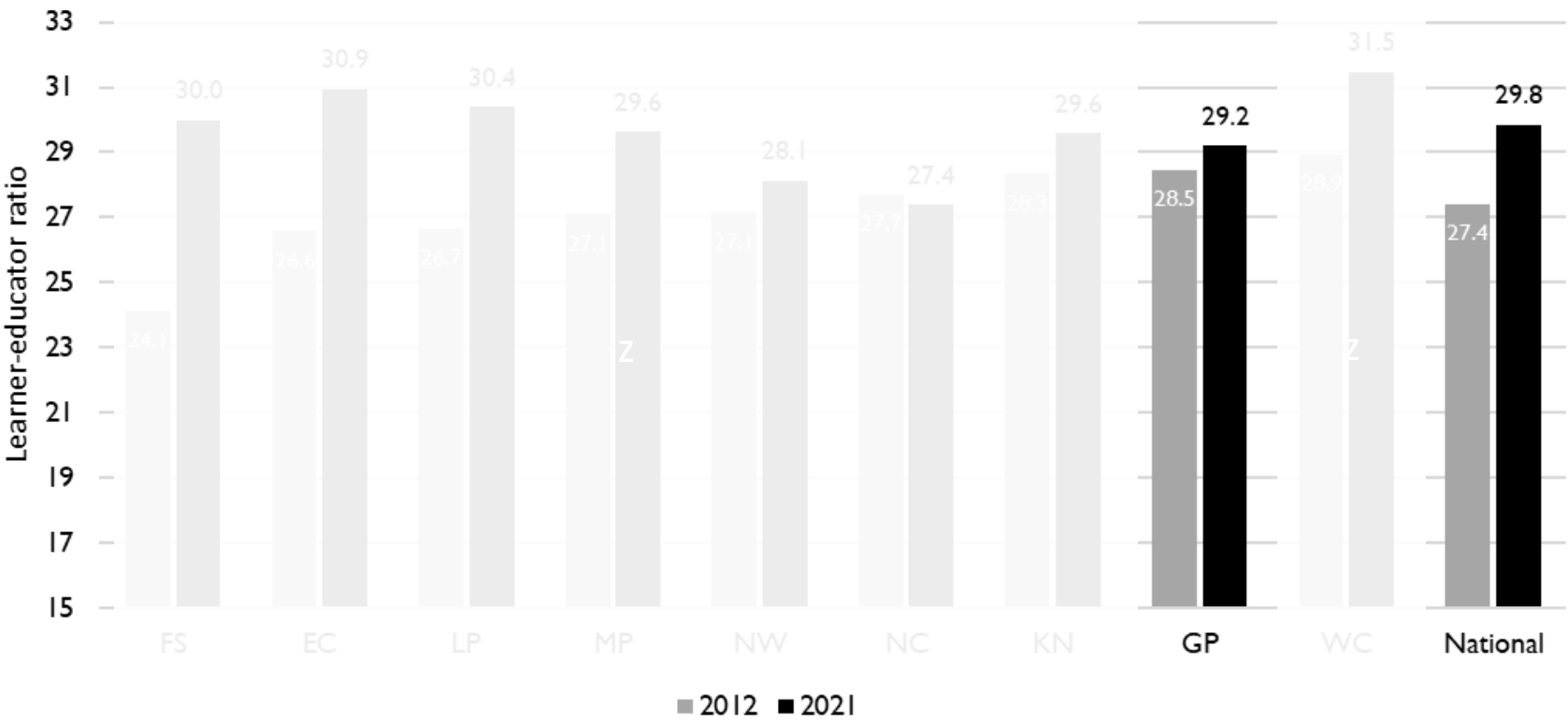
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Learner-public educator ratios ('12 & '21)



National and provincial learner-to-public-educator ratios in 2012 and 2021, grades 1 to 12 in public ordinary schools in South Africa

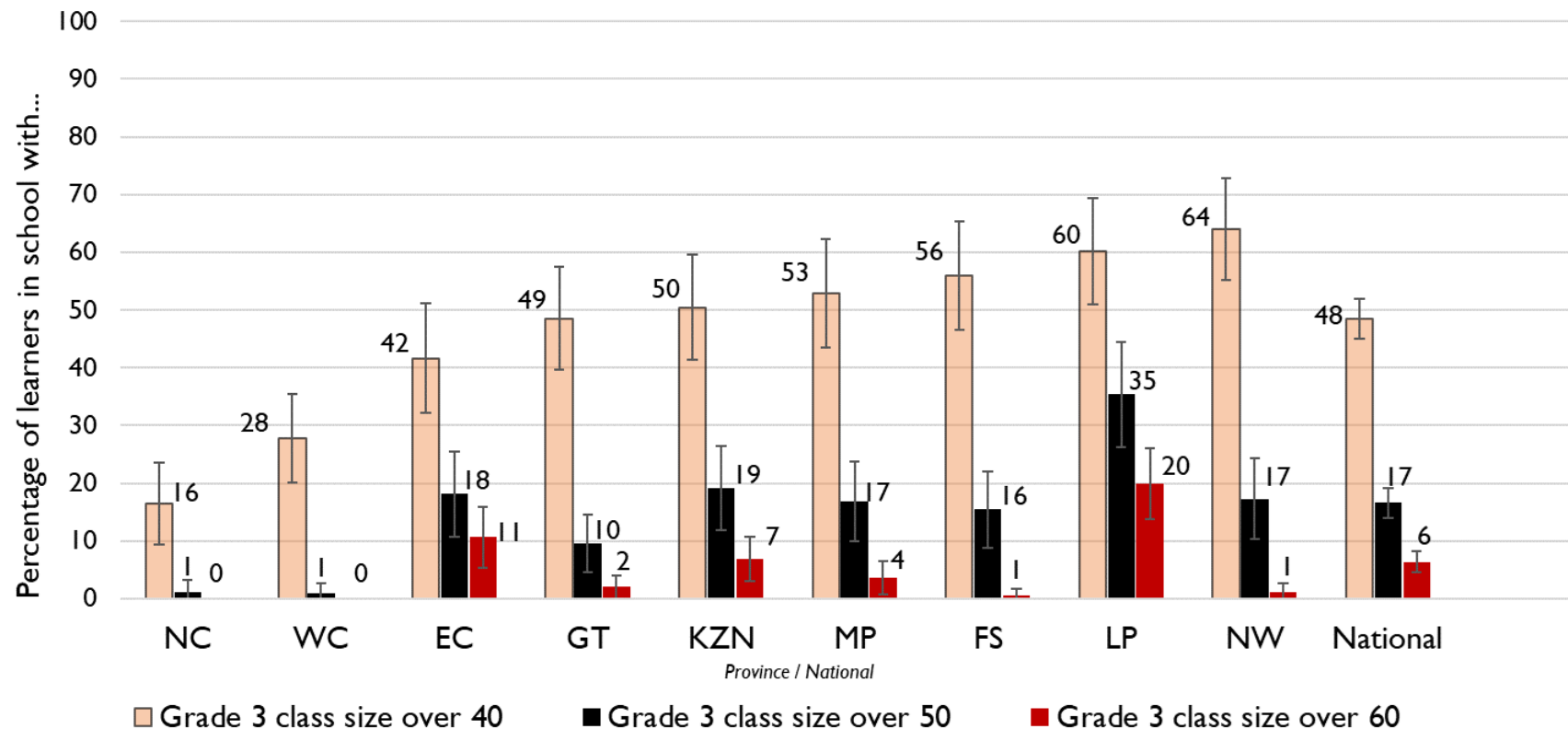


LE ratio rose from 28.5 learners per educator to 29.2 learners per educator in GP

However, some of this is offset by SGB positions.

Source: Figure 1 in South African teacher shortages as revealed through class sizes and learner-educator ratios: An exploratory analysis by Gabrielle Wills (2023)

Grade 3 class sizes (2017/18 School Monitoring Survey)



Data source: SMS 2017/18. Learner weights applied. Educator responses averaged at school level. Technically estimates should be interpreted in relation to grade 6 learners. FS = Free State, EC = Eastern Cape, LP = Limpopo Province, MP = Mpumalanga Province, NC = Northern Cape, KN = KwaZulu-Natal, GP = Gauteng, WC = Western Cape.

Post provisioning *guidelines* - Class sizes should not exceed 35 in Grade 3.

% of learners in grade 3 classes > 40:
48% in SA, 49% in GP

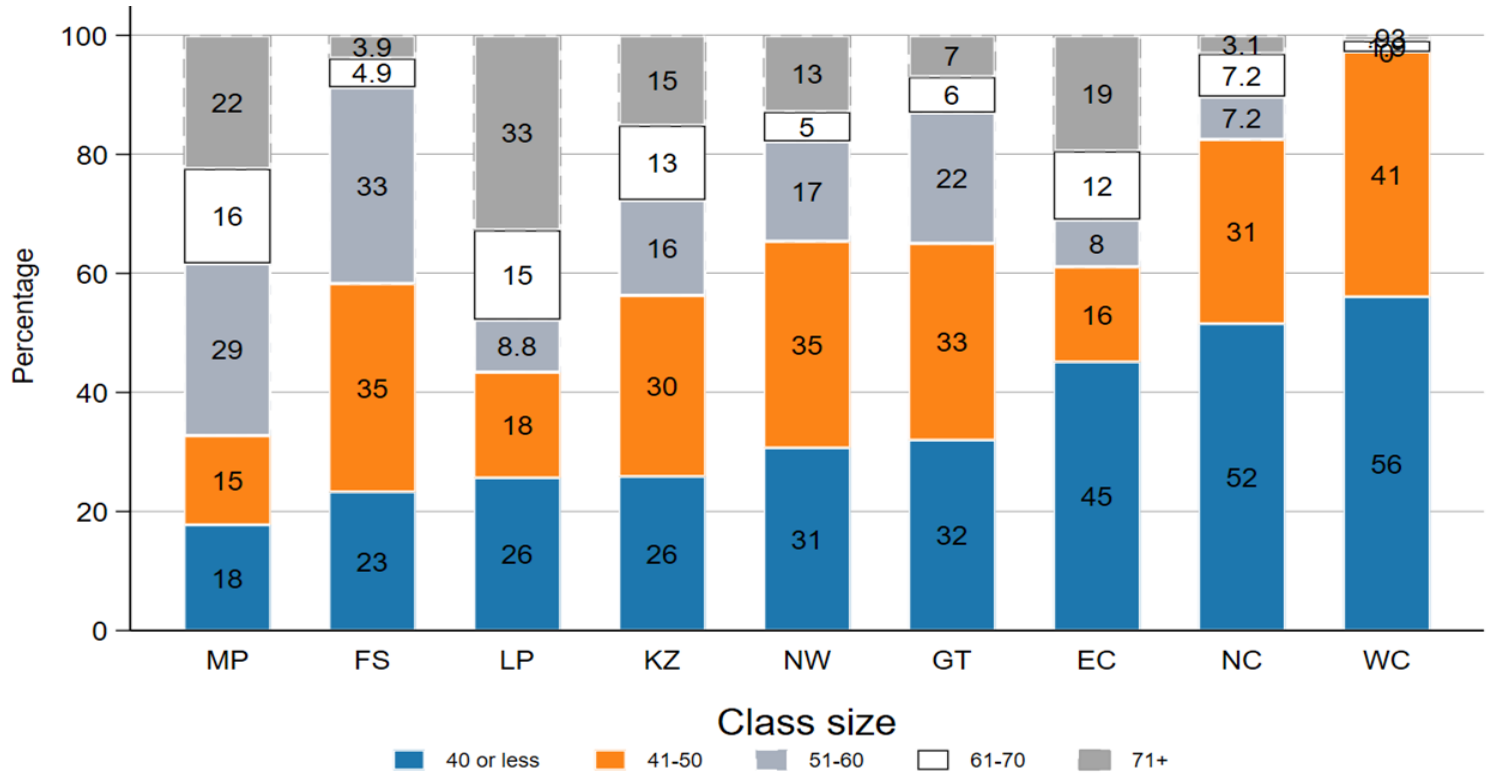
% of learners in grade 3 classes > 50:
17% in SA, 10% in GP

% of learners in grade 3 classes > 60:
6% in SA, 2% in GP

Note: Nationally, grade 3 enrolment numbers had been rising from about 2011 and peaked in 2017 before starting to decline slightly, stabilising at about 1,1 million in 2021 (Gustafsson 2022a, p10-11). Holding other things constant, grade 3 class sizes will be similar or slightly smaller in 2022 than what is seen in these 2017/18 SMS estimates.

Largest classes - School Monitoring Survey 2017/18

Percentage of grade 6 learners in schools with an educator reporting that their largest class is in the following class size category, disaggregated by province (SMS 2017/18)



- In 2017/18, Gauteng was one of the top four provinces with the lowest percentage of large classes with more than 50 learners
- A further deterioration of the LE ratio will drive up class size and the number of excessively large classes, negatively impacting quality and teacher motivation

Source: Figure 1 in South African teacher shortages as revealed through class sizes and learner-educator ratios: An exploratory analysis by Gabrielle Wills (2023) using School Monitoring Survey 2017/18 (953 schools, learner weighted).



Educator growth by teachers and senior educator positions

Changes in teacher and SMT numbers

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%

Source: Anonymised PERSAL data from 2012 and 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.

Changes in teacher and SMT numbers



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%
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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	3 116	-394	-11%
MP	26 127	27 857	1 730	7%	4 047	4 055	8	0%	1 108	1 114	6	0%	2 200	2 200	0	0%
NC	7 257	7 929	672	9%	1 034	1 094	60	6%	294	365	71	24%	1 200	1 200	0	0%
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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%

Decline in principal numbers between 2012 and 2021 (principal appointments potentially delayed by COVID)

Source: Anonymised PERSAL data from 2012 and 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.

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 (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. The percentage within each rank is calculated taking the total number of educator in that year for that rank over the total number of educators in that year.

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%	17%	11%	7.8%	7.6%	5.9%	5.6%	7.1%	1.3%
LP	100%	100%	78%	80%	13%	10%	4.2%	3.6%	4.8%	3.7%	4.1%	2.1%
MP	100%	100%	76%	76%	11%	11%	3.1%	3.0%	5.7%	5.1%	3.1%	2.1%
NC	100%	100%	75%	75%	10%	10%	3.3%	3.4%	4.7%	4.0%	3.7%	3.3%
NW	100%	100%	76%	76%	10%	11%	3.3%	3.4%	4.7%	4.0%	3.7%	3.3%
WC	100%	100%	74%	74%	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%

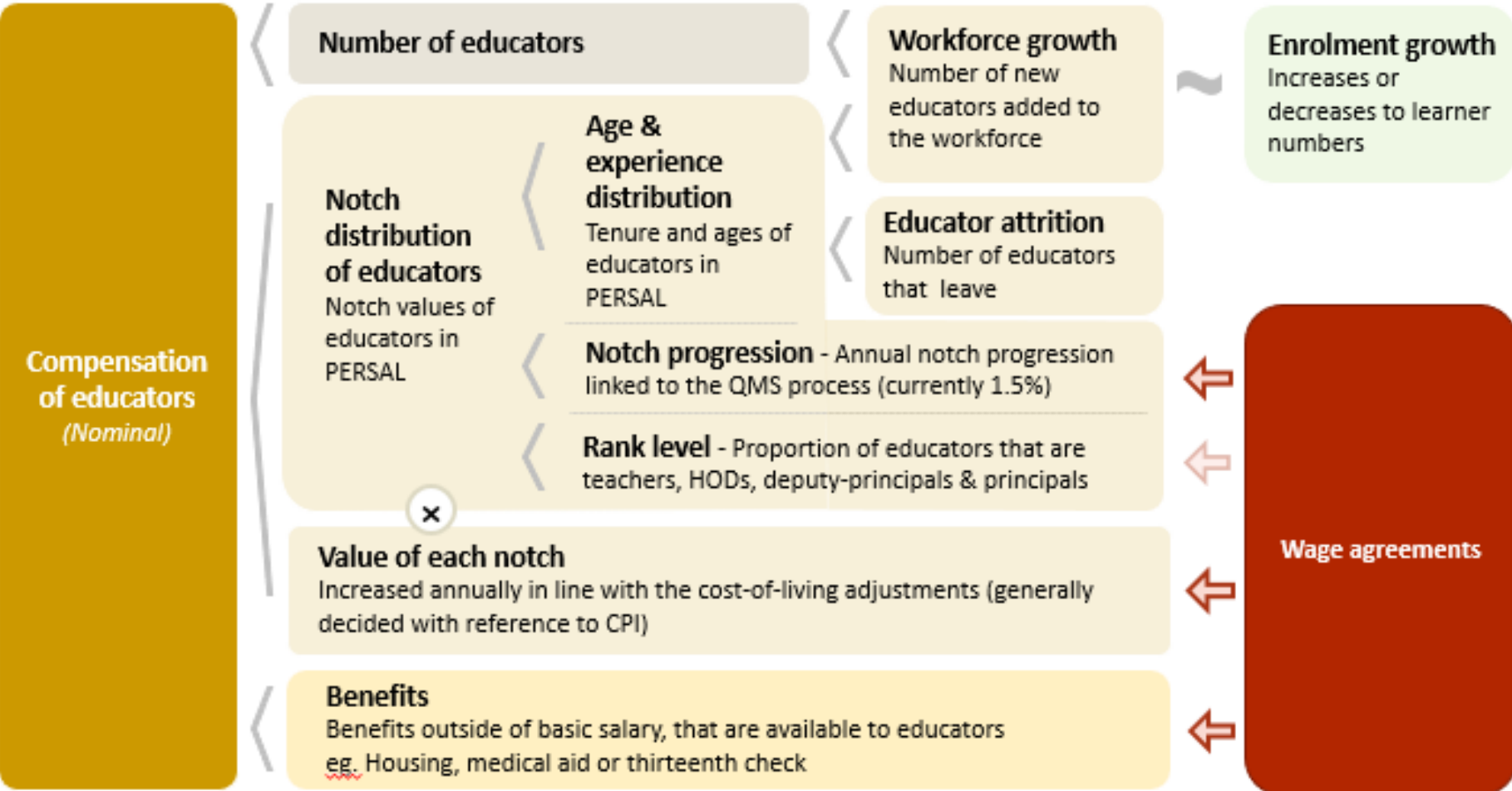
The proportions of the different educator ranks in Gauteng appear to be roughly in line with the national average in 2021, although proportion of principals is lower. The proportion of teachers has grown, while the proportion of senior educators has declined

Source: Anonymised PERSAL data from 2012 and 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. The percentage within each rank is calculated taking the total number of educator in that year for that rank over the total number of educators in that year.



Expected financial implications to 2030

Unit cost drivers



Real and nominal costs

*A real increase in wages takes place when wages increase **above** the rate of inflation*

*Changes to real wages are an indicator of **purchasing power***

7

Examples:

In 2022 CPI was **7.2%**

If **nominal wages** increase by **7.2%**, then **real wages** increase by **0%**

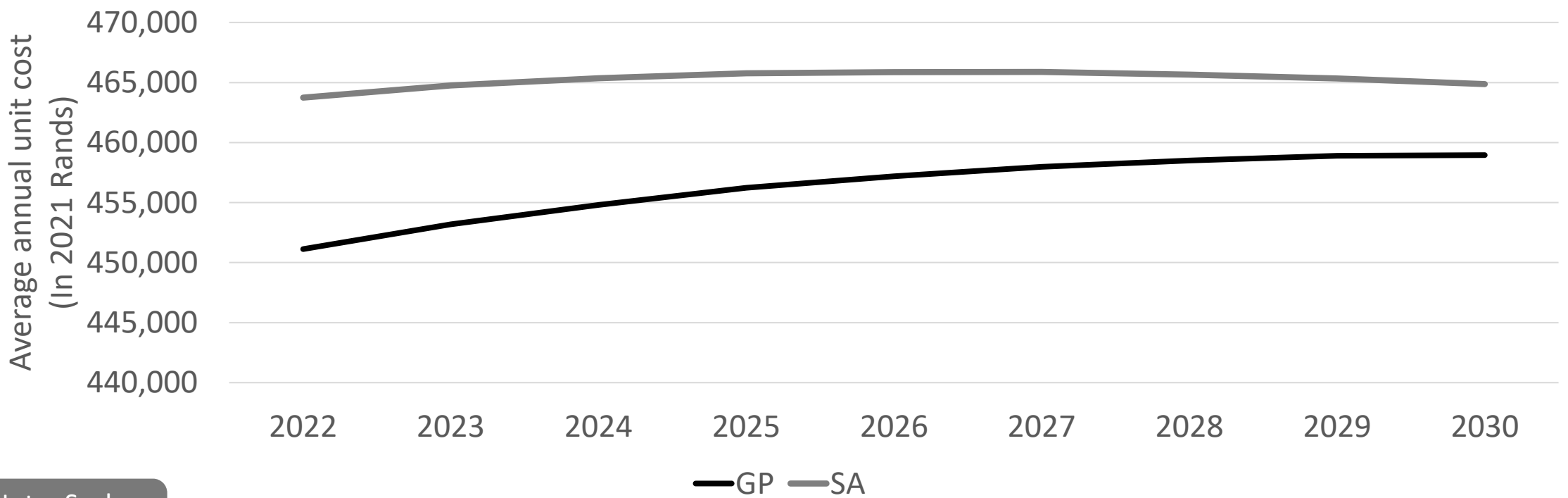
If **nominal wages** increase by **9%**, then **real wages** increase by **1.8%**

If **nominal wages** increase by **5%**, then real wages decrease by **2.2%**

Projected unit costs trends| All educators



In constant 2021 rands

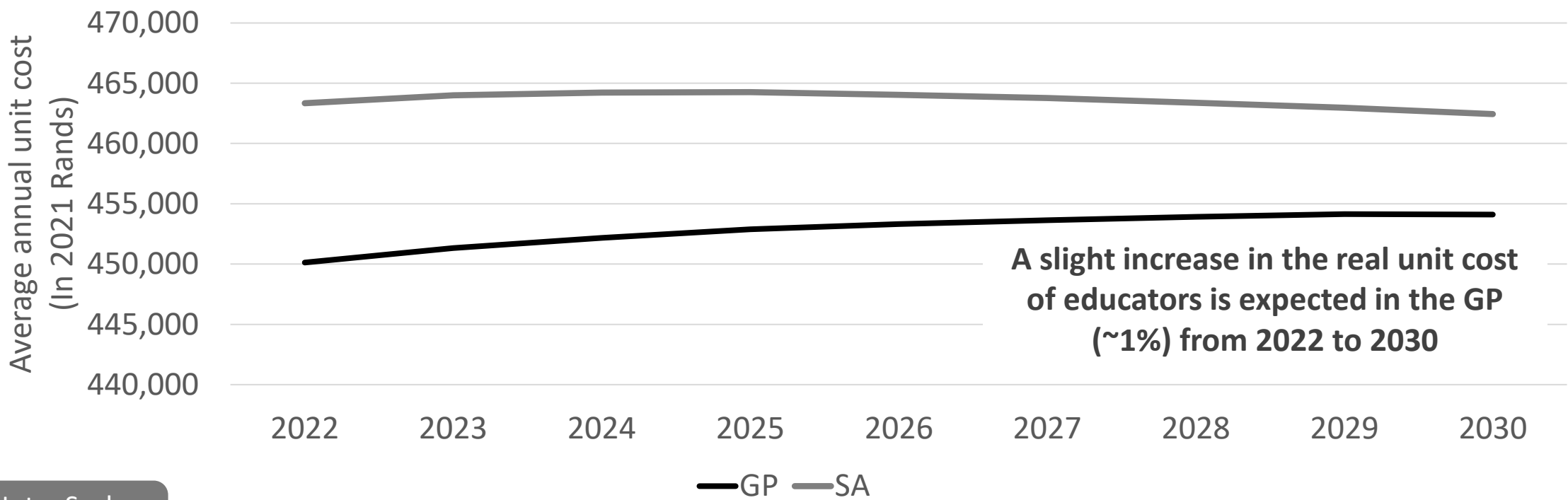


Note: Scale not from zero

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



A slight increase in the real unit cost of educators is expected in the GP (~1%) from 2022 to 2030

Note: Scale not from zero

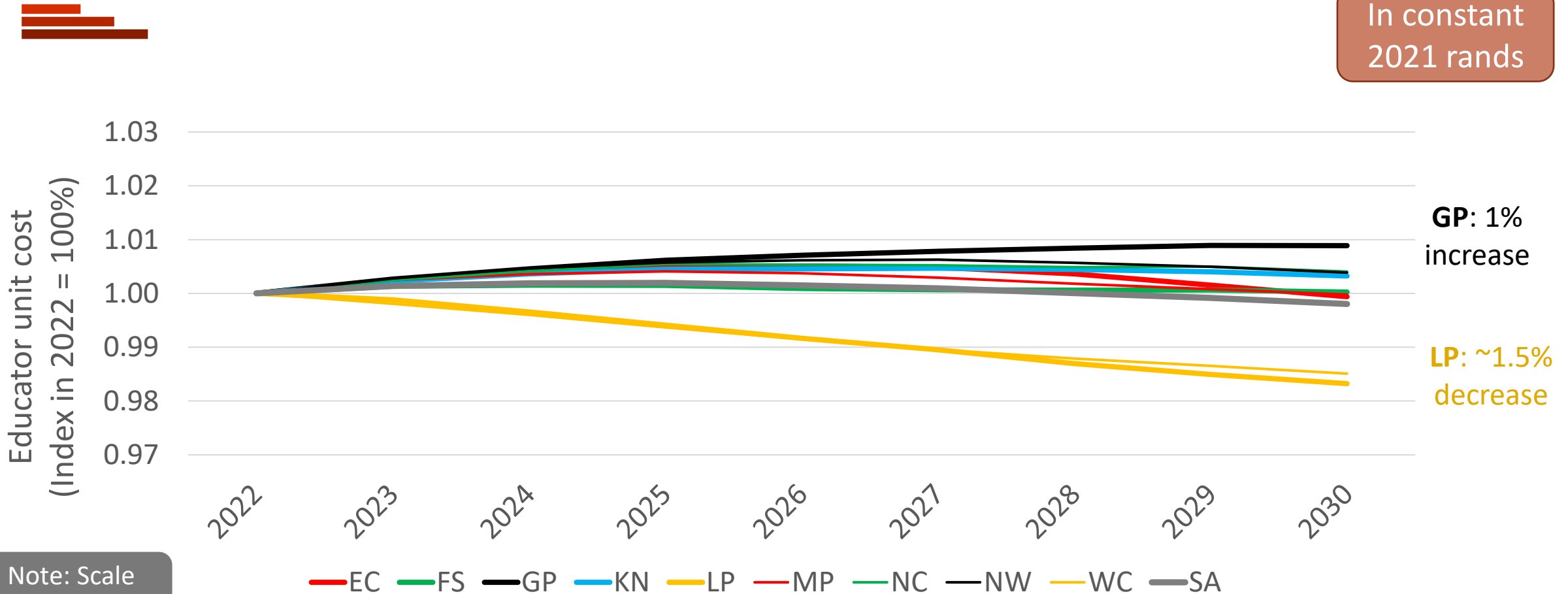
GP growth adjusted

Adjusted the expected growth in educator numbers
• Assume 20% growth in educators from 2021 to 2030 in GP

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 senior educators grows from 16% in 2021 to 21% in 2030.

Indexed unit costs trends| All educators

In constant 2021 rands



Note: Scale not from zero

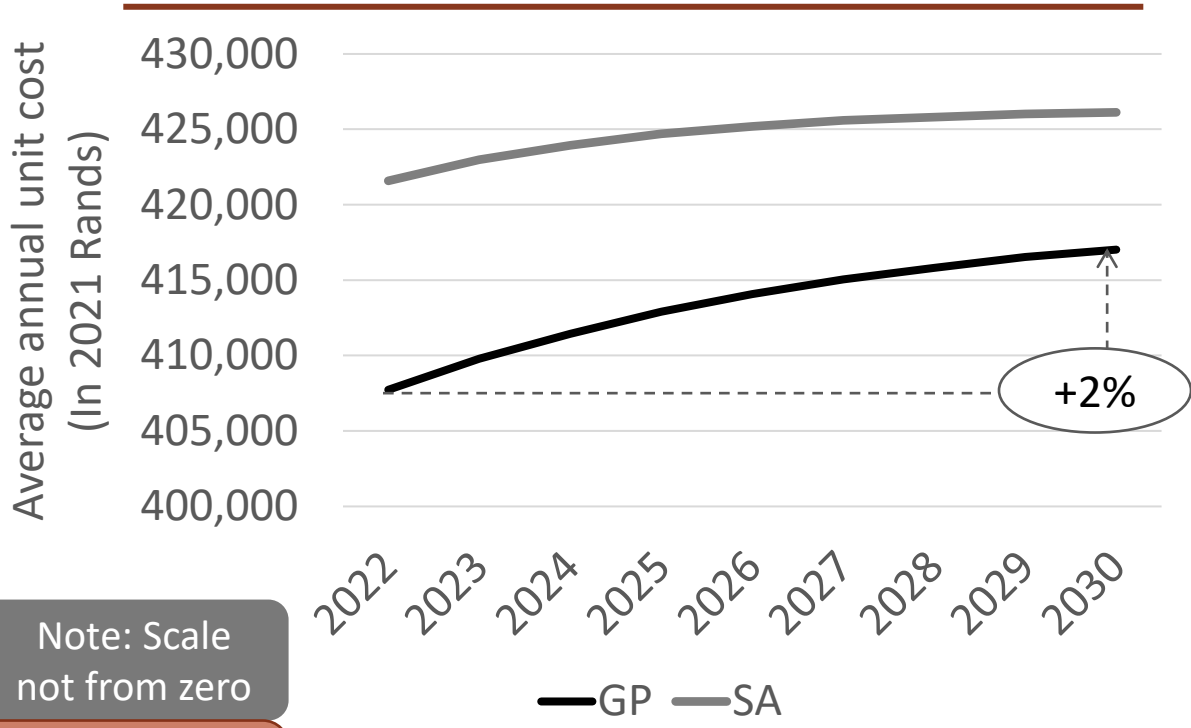
WC growth adjusted

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 senior educators grows from 16% in 2021 to 21% in 2030.

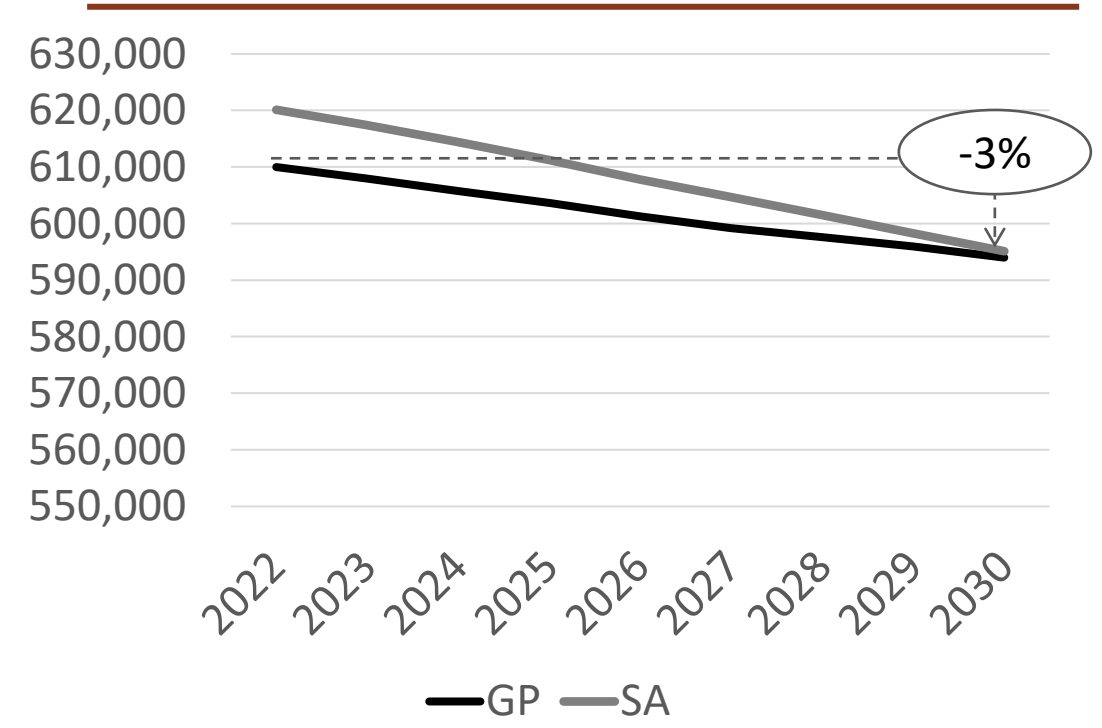
Projected unit costs trends| All educators

In constant 2021 rands

Teachers (School based teachers)



Senior educators (HODs, Deputy's, Principals & Other)



Note: Scale not from zero

GP growth 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 senior educators grows from 16% in 2021 to 21% in 2030.



Between and within province movement

Inter-provincial educator movement (7-yr)



	Province in 2019										Movement out of province	
	EC	FS	GP	KN	LP	MP	NC	NW	WC	Total		
Province in 2012	EC	97.79	0.10	0.86	0.22	0.01	0.04	0.11	0.19	0.70	100	2.23%
	FS	0.35	94.25	2.76	0.10	0.07	0.23	0.41	1.56	0.26	100	5.74%
	GP	0.15	0.26	96.86	0.27	0.81	0.42	0.05	0.93	0.24	100	3.13%
	KN	0.22	0.10	1.14	97.95	0.10	0.37	0.01	0.06	0.04	100	2.04%
	LP	0.02	0.02	1.72	0.02	96.80	0.80	0.05	0.56	0.02	100	3.21%
	MP	0.03	0.14	2.48	0.37	1.54	94.86	0.03	0.49	0.07	100	5.15%
	NC	0.47	0.50	0.47	0.06	0.59	0.03	94.35	2.37	1.15	100	5.64%
	NW	0.06	0.59	3.84	0.03	0.65	0.34	0.75	93.60	0.14	100	6.40%
	WC	0.72	0.03	0.17	0.05	0.00	0.02	0.35	0.03	98.61	100	1.37%

Source: PERSAL 10-year anonymised dataset, only educators that were in the dataset for 2018 and 2019 are considered here

Inter-provincial educator movement (7-yr)



	Province in 2019										Movement out of province	
	EC	FS	GP	KN	LP	MP	NC	NW	WC	Total		
Province in 2012	EC	97.79	0.10	0.86	0.22	0.01	0.04	0.11	0.19	0.70	100	2.23%
	FS	0.35	94.25	2.76	0.10	0.07	0.23	0.41	1.56	0.26	100	5.74%
	GP	0.15	0.26	96.86	0.27	0.81	0.42	0.05	0.93	0.24	100	3.13%
	KN	0.22	0.10	1.14	97.95	0.10	0.37	0.01	0.06	0.04	100	2.04%
	LP	0.02	0.02	1.72	0.02	96.80	0.80	0.05	0.56	0.02	100	3.21%
	MP	0.03	0.14	2.48	0.37	1.54	94.86	0.03	0.49	0.07	100	5.15%
	NC	0.47	0.50	0.47	0.06	0.59	0.03	94.35	2.37	1.15	100	5.64%
	NW	0.06	0.59	3.84	0.03	0.65	0.34	0.75	93.60	0.14	100	6.40%
	WC	0.72	0.03	0.17	0.05	0.00	0.02	0.35	0.03	98.61	100	1.37%

- Low level of movement between provinces –3.1% of GP teachers from 2012 are teaching in a different province in 2019
- Educators are most likely to move to the NW and LP

Source: PERSAL 10-year anonymised dataset, only educators that were in the dataset for 2018 and 2019 are considered here

Inter-provincial educator movement (7-yr)

		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

Inter-provincial educator movement (7-yr)

Province in 2012	Province in 2019								
	EC	FS	GP	KN	LP	MP	NC	NW	WC
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% movement into province	1.1%	2.7%	8.0%	0.5%	2.4%	3.6%	5.8%	6.8%	2.8%

- Many educators moved to GP- about 8% of educators in GP in 2019 (that were educators in 2012 already) had come from another province
- High numbers (>600) of educators came from KZN, NW, LP & MP. The only provinces from which there is little movement to GP is the WC and the NC

Educator movement between schools



Province	Pay point in 2019 (Ordinary schools only)			Total (%)
	Same as in 2018 (%)	Different to 2018 (%)	None - left system (%)	
EC	93.25	4.61	2.14	100
FS	90.54	5.54	3.93	100
GP	91.08	3.95	4.97	100
KN	91.99	4.31	3.70	100
LP	91.04	6.95	2.00	100
MP	92.02	4.66	3.32	100
NC	85.44	8.39	6.18	100
NW	89.42	6.30	4.28	100
WC	87.27	6.09	6.64	100
Total	91.11	5.05	3.83	100

- Fair amount of movement between schools; about 4% of Gauteng educators (5% nationally) move to a different pay point but stay within PERSAL from 2018-2019
- Rate at which educators aged 50 and below leave the system is higher in Gauteng (~5%) than the national average

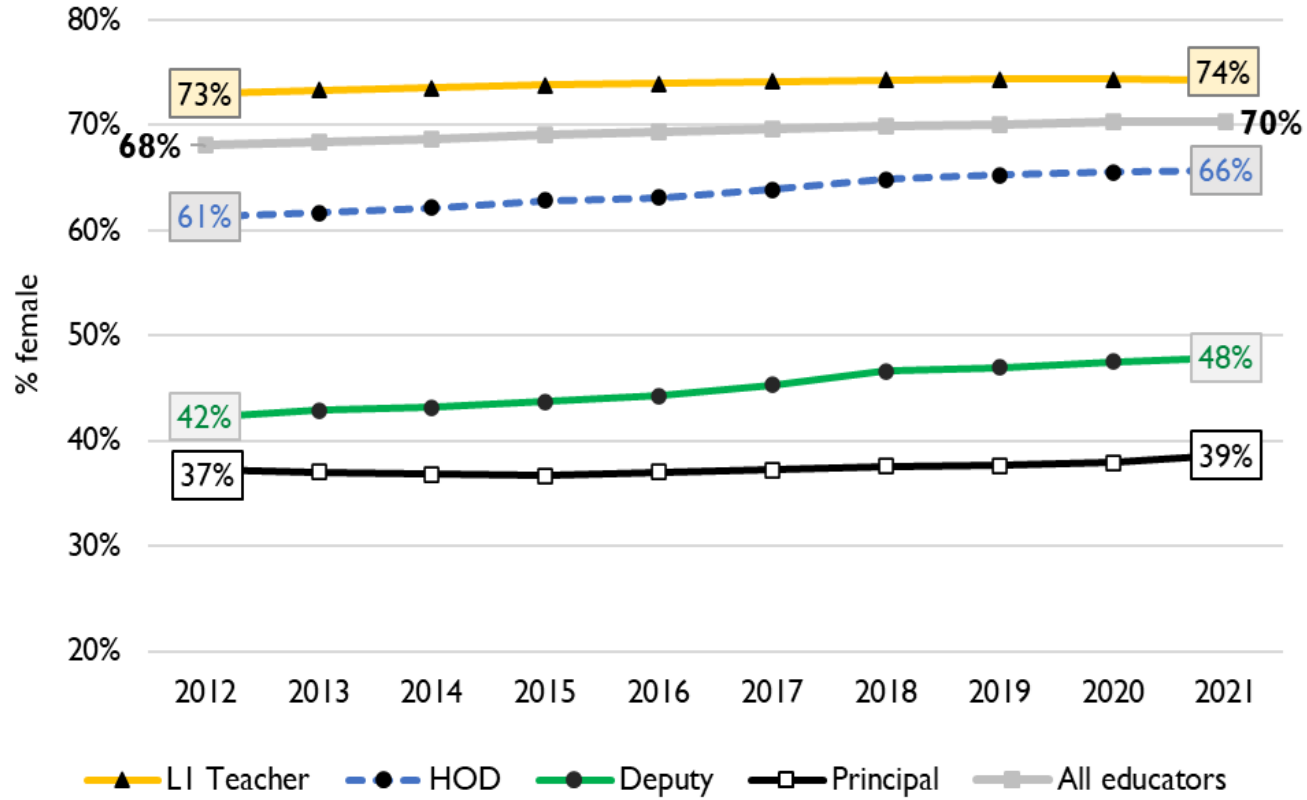
Source: PERSAL 10-year anonymised dataset. Only included educators aged 50 years and below, that were in ordinary schools in 2018 (Primary, Secondary, Combined and Intermediate)—excluded all paypoints that did not appear in both years after identifying 103 paypoints where the paypoint number changed.



Gender imbalances in management

Percentage of educators that are female

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

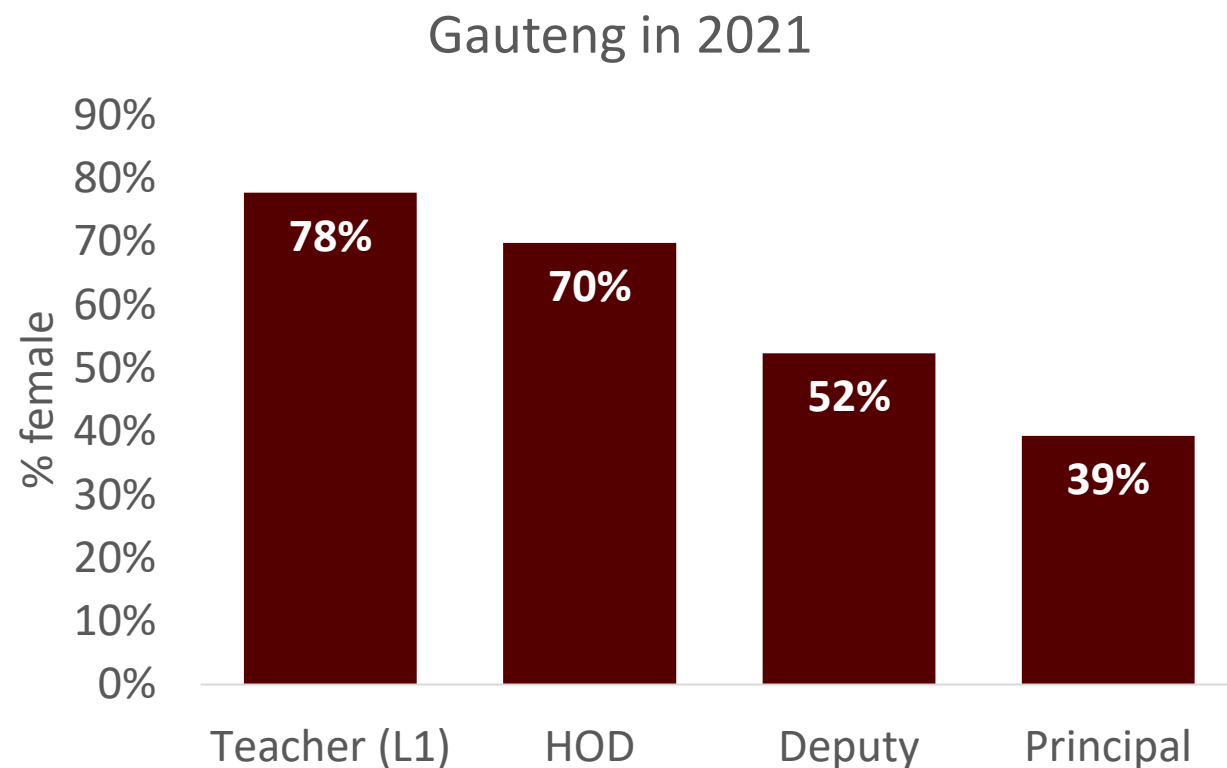


Nationally, there has been very little transformation in senior school leadership in terms of gender since 2012 and even since 2004 (just 34% of principals were female).

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

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.

Percentage of educators that are female



In GP in 2021, 75% of all educators were female, with 78% of teachers, women.

Women remain underrepresented in senior management positions. Only 52% of deputy principals and 39% of principals were women in 2021.

General questions and discussion

- Infrastructure: How close is the province to achieving the large growth that is required by 2030? Where is the department regarding moving from learners transport to new schools / classrooms?
- Do you track what subjects and phases teachers are needed for:
 - Is there a list of the positions requested by principals or positions filled? Or of educators that have left?
- What is the process for principal and senior educator mentorship, selection and induction
- How much of a concern is gender equity in management in GP

Conclusion

- Although the retirement wave will be felt slightly less and later in GP, the province faces a high educator turnover rate, where about 5% of younger educators (50 years and below) leave the schooling system per year, appointments will therefore increase
- Due to high predicted population growth rates of school-aged children (~27% from 2021 to 2030), educator numbers (incl. educators in management and leadership positions) will need to rise in GP, and new classrooms and schools will need to be built to respond to the higher enrolment numbers adequately; if the sector does not expand, LE ratios and class sizes will increase even further
- The real unit cost for all educators is expected to increase (~1%) slightly in Gauteng over the period 2022-2030; the real unit cost of teachers is projected to increase by (+2%), while the real unit cost of senior educator educators is expected to decline (-3%)