

# *International Forum on Public Policies for the Development of Mexico*

## Education: Equity and Quality



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***DETAILED NOTES***

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# Outline of Presentation

Part 1: The Context

Part 2: Major Developments

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Part 4: Recommendations - Delivering efficient and equitable school services

Part 5: Recommendations - Improving access and quality in higher education

# Overall Message

Despite major progress in the past 20 years to expand the coverage of education services, there are serious lags in enrolment, inequities in outcomes, and achievements of children who are at school are well below those in other OECD countries.

# Overall Message (2)

Overall, despite an impressive increase of enrolment, some clear deficiencies of the education system are behind the limited progress in closing the human capital gap. Resources are insufficient given the needs, but more importantly they are inefficiently allocated and used; curricula do not match students and labour market needs; equipment is in short supply, there are weaknesses in teacher training, school administration and teaching practices.

# Overall Message (3)

Mexico has made enormous progress in education provision, with almost universal primary school coverage and 60 per cent enrolment rate for secondary education. However, Mexicans spend comparatively few years in formal education, and the quality of the education they receive is lower than in other OECD countries. Spending on education per student is also low in comparison with other OECD countries, with teachers' salaries absorbing a disproportionately high proportion of expenditure. Furthermore, there are strong inequalities in enrolment and outcomes, with students' socio-economic background explaining a large part of drops-outs and difficulties at school. At all levels of education, efforts to increase efficiency and reduce inequality must take priority.

# Part 1

## The Context

# National Context

**Mexico** is a federal country with 31 states and a federal district, 103 million inhabitants, 75% of the population in urban areas, and highly dispersed (150,000 rural localities with less than 100 inhabitants).

## Limited fiscal resources

## Fast growth of the secondary-school-age population

## Sizeable internal and external migration flows

Eleven million nationals live abroad (Mexico has 103 million inhabitants)

## Acute income inequities

The distribution of income in Mexico is the most unequal in the OECD and only modest progress has been achieved in reducing inequalities in the last decades.

## The existence of widespread poverty including a high proportion in extreme poverty

About 20% of children live in households in which revenues cannot cover nutritional needs and minimum spending on education. About 15% of the population live on less than US\$2 per day.

## Great cultural and linguistic diversity

e.g. 62 different languages are spoken by the 9% indigenous population  
Primary education is provided in 43 different indigenous languages.

# Educational Context

## A large system

Overall, the number of students enrolled has risen fivefold since 1960 and education services now cover 30 million students, with 92% of them in basic and upper secondary education. Measured by the number of students enrolled in these two levels, Mexico has the largest education system in the OECD after the US.

## Education, especially at the basic education levels, is provided mainly by the public sector.

More than 90% of students in basic education are registered in public schools. The share of private schooling is higher in upper secondary education (about 20%), and tertiary education (about one third) but overall it has a much smaller role than in most countries in Latin America.

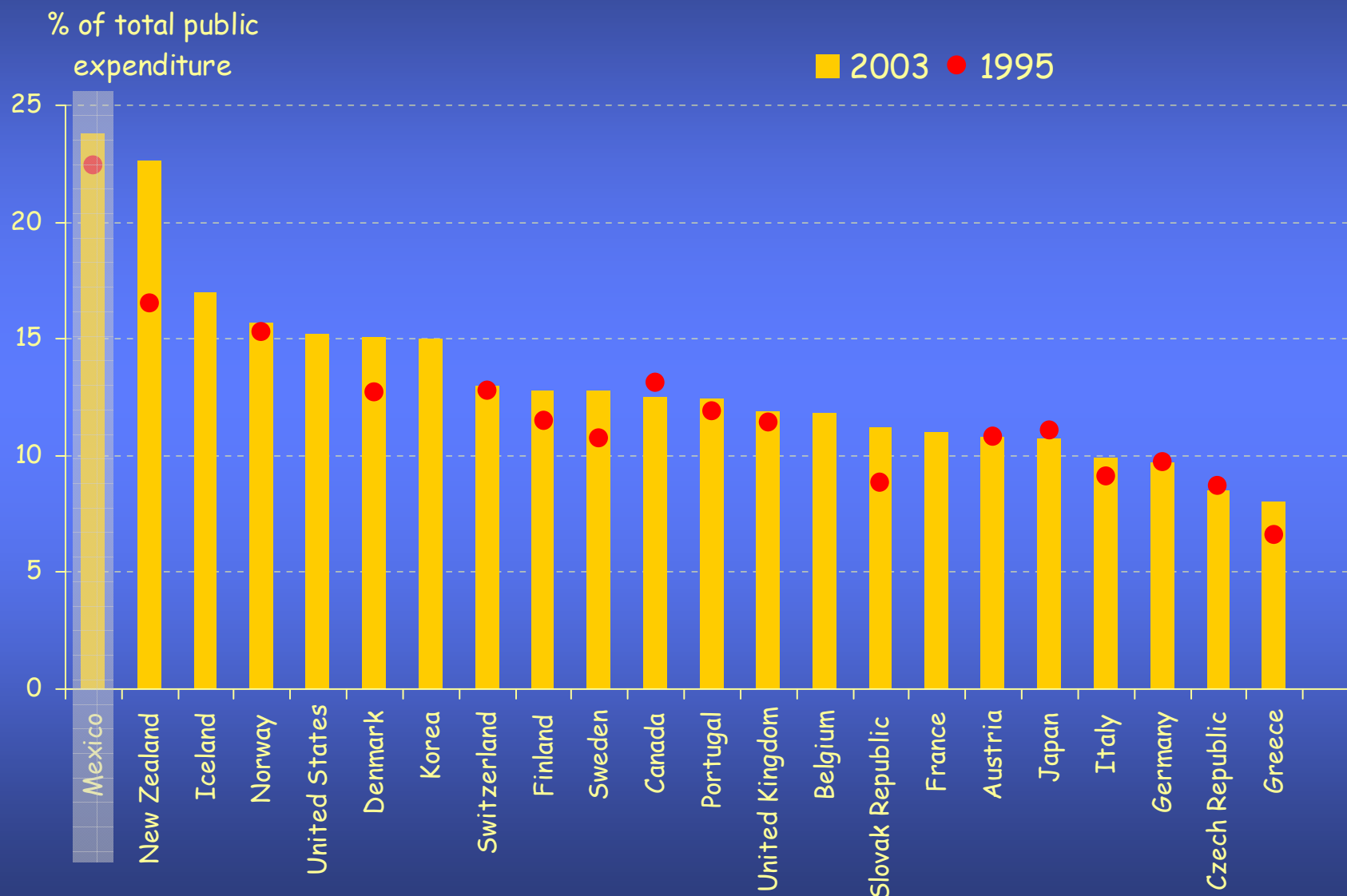
Private schools attract mainly high income groups who turn to private services as a response to low quality of services in public education. Indeed, private schools do much better than public schools at PISA but this effect disappears when the socioeconomic background is taken into account.

## Decentralisation

One of the key reforms of the past 20 years was the 1992 decentralisation that gave states the responsibility for providing basic public education services.

# Education is the largest single public expenditure item

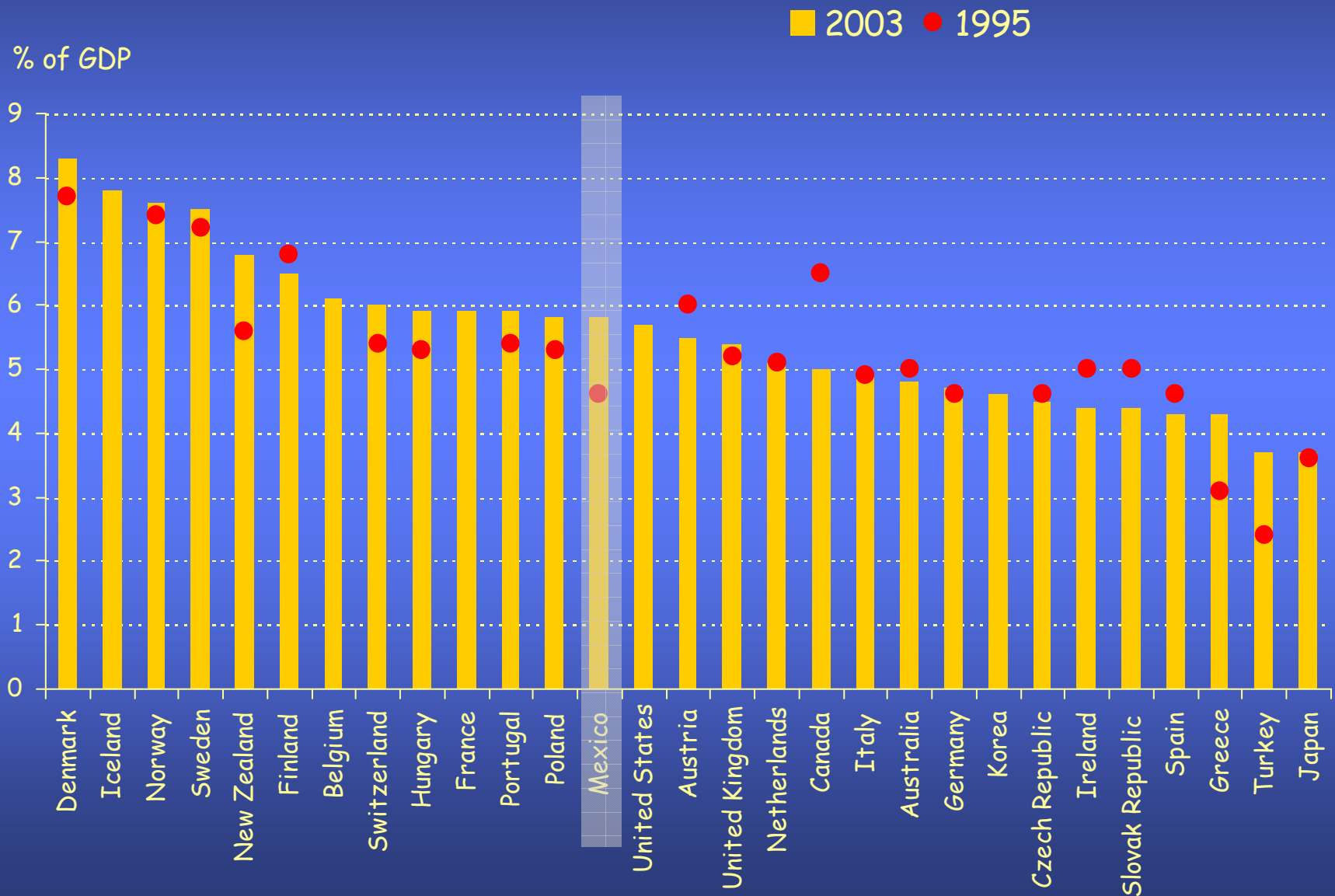
Public expenditure on education as a percentage of total public expenditure



Source: OECD, Education at a Glance, 2006.

# Educational spending as a percentage of GDP is above the OECD average

## Public expenditure on education as a percentage of GDP



Source: OECD, Education at a Glance, 2006.

# Educational Context

## But spending on education remains low in absolute terms

Although total spending on primary and secondary education increased by 36% in real terms between 1995 and 2001 and total spending per student increased by 25%, Mexico's cumulative spending on education per student is among the lowest in the OECD (see next slide).

## Large gap between spending per tertiary student and spending per non-tertiary student

The gap between spending per tertiary student and spending per primary student is the largest such gap among OECD countries; it has decreased slightly in recent years, as spending per tertiary student has declined reflecting higher enrolment.

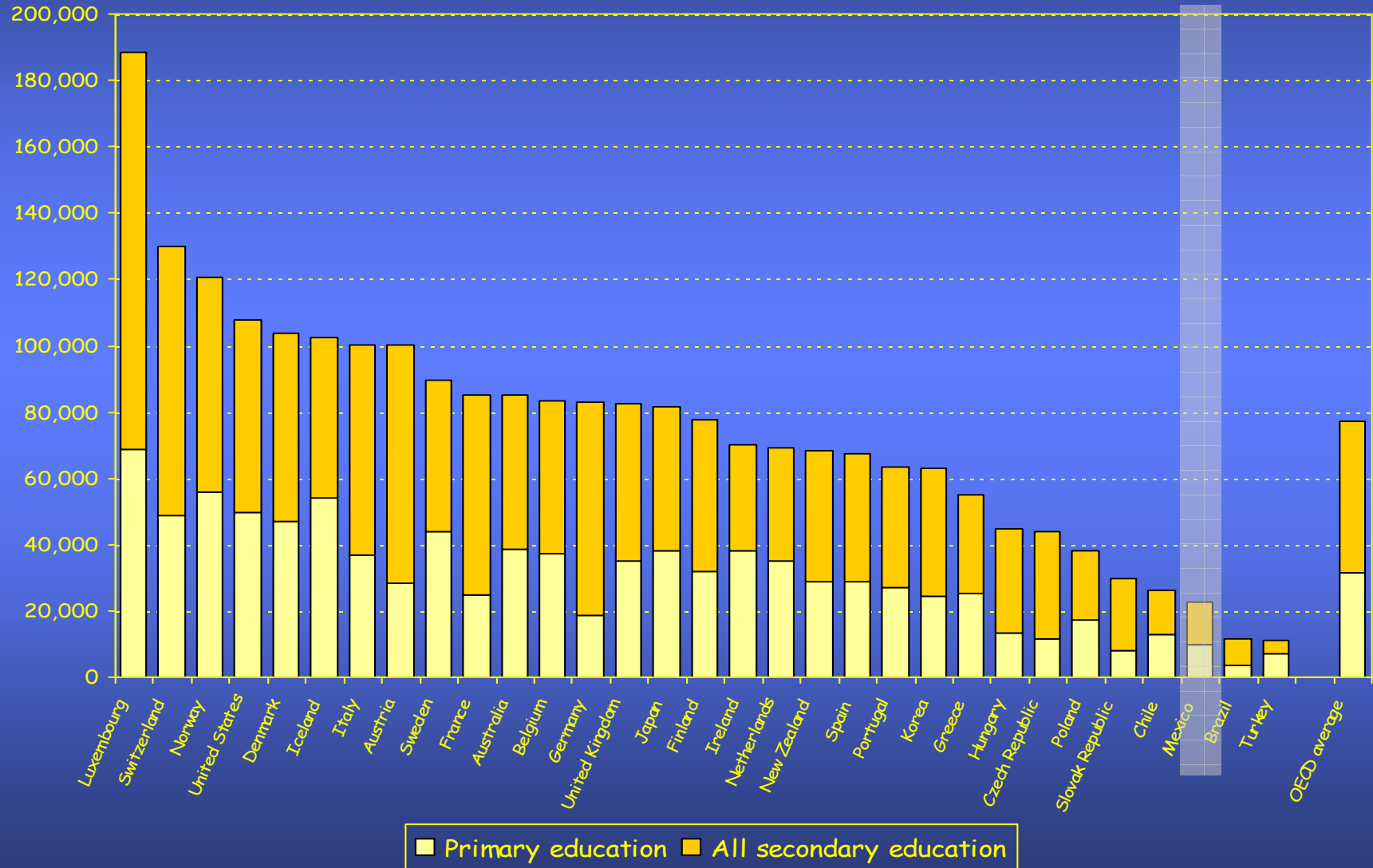
## Salaries of teachers take up most of the school budget

A striking feature of education spending in Mexico is that most of it goes to current spending and most current spending at primary and secondary levels goes on teachers' salaries. As a result, the share of salaries in total spending is the highest in the OECD (above 90%) and the shares of capital expenditure and of other current expenditure, such as teaching materials, are consequently well below the OECD average.

# Spending on education remains low in absolute terms

Cumulative expenditure on educational institutions per student over the theoretical duration of primary and secondary studies (2003)

In equivalent US dollars converted using PPPs for GDP, by level of education



Source: OECD, *Education at a Glance 2006*.

# Part 2

## Major Developments

# Achievements

## Education is a priority in Mexico

Education has been a policy priority for several decades in Mexico, with a focus on increasing school enrolment in primary education and, more recently, in secondary education.

## Mexico has made major investments in education

Between 1995 and 2003, spending on primary and secondary education in Mexico increased by 49%, the 6<sup>th</sup> steepest increase in the OECD. Spending per student increased by 32%, at a somewhat lower rate, because enrolment also rose by 13%.

Also at the tertiary level, educational spending increased significantly between 1995 and 2003, by 67%. However, since tertiary enrolment rose quickly (by 48%), spending per tertiary student only increased by 13%.

## Some positive developments

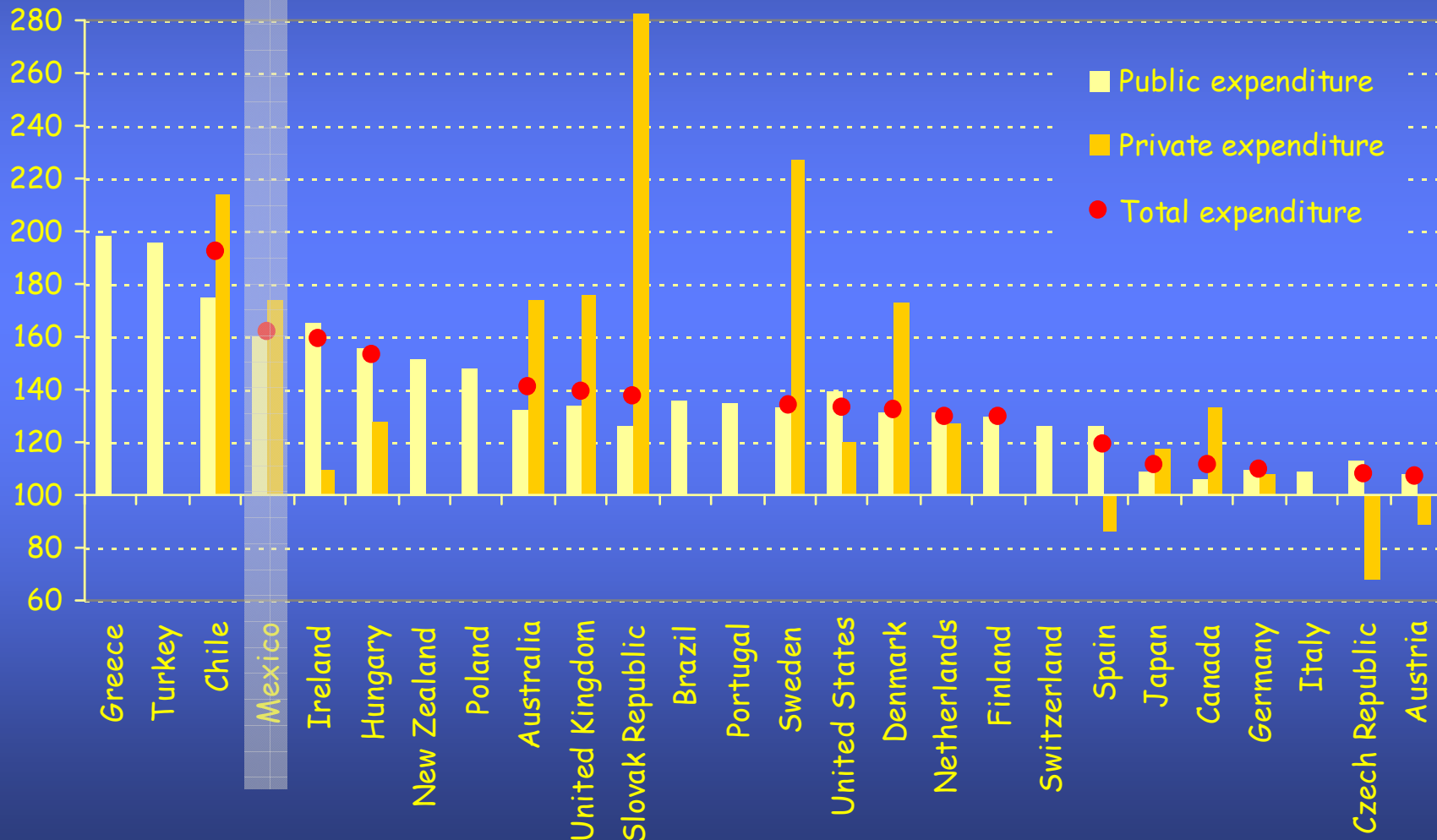
Coverage and completion rates have evolved favourably (but slowly) (see next slides). The system grew from less than one million students in 1950 to more than 30 million students in 2000.

The average duration of schooling was brought up from 2.6 years in 1960 to close to 8 years in 2004, and children entering school now are expected to stay in the system for close to 13 years.

The illiteracy rate was reduced from more than a third of the population to 8.5% from 1960 to 2004.

## Among the most significant changes in expenditure on educational institutions between 1995 and 2003

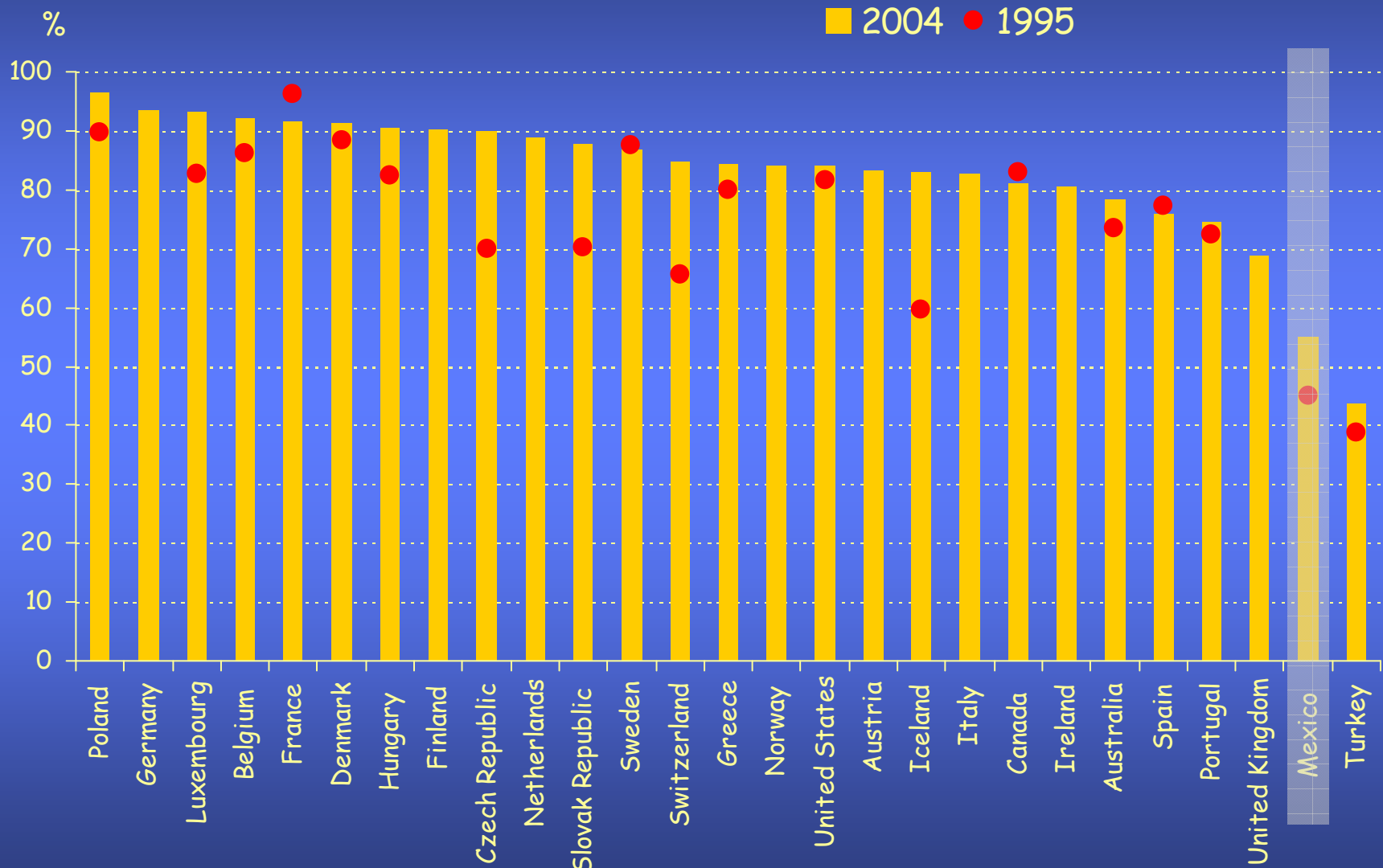
Index of change between 1995 and 2003 in expenditure on educational institutions from public and private sources, all levels of education (1995=100, 2003 constant price)



Source: OECD, Education at a Glance, 2006.

# A favourable but slow progress in coverage rates

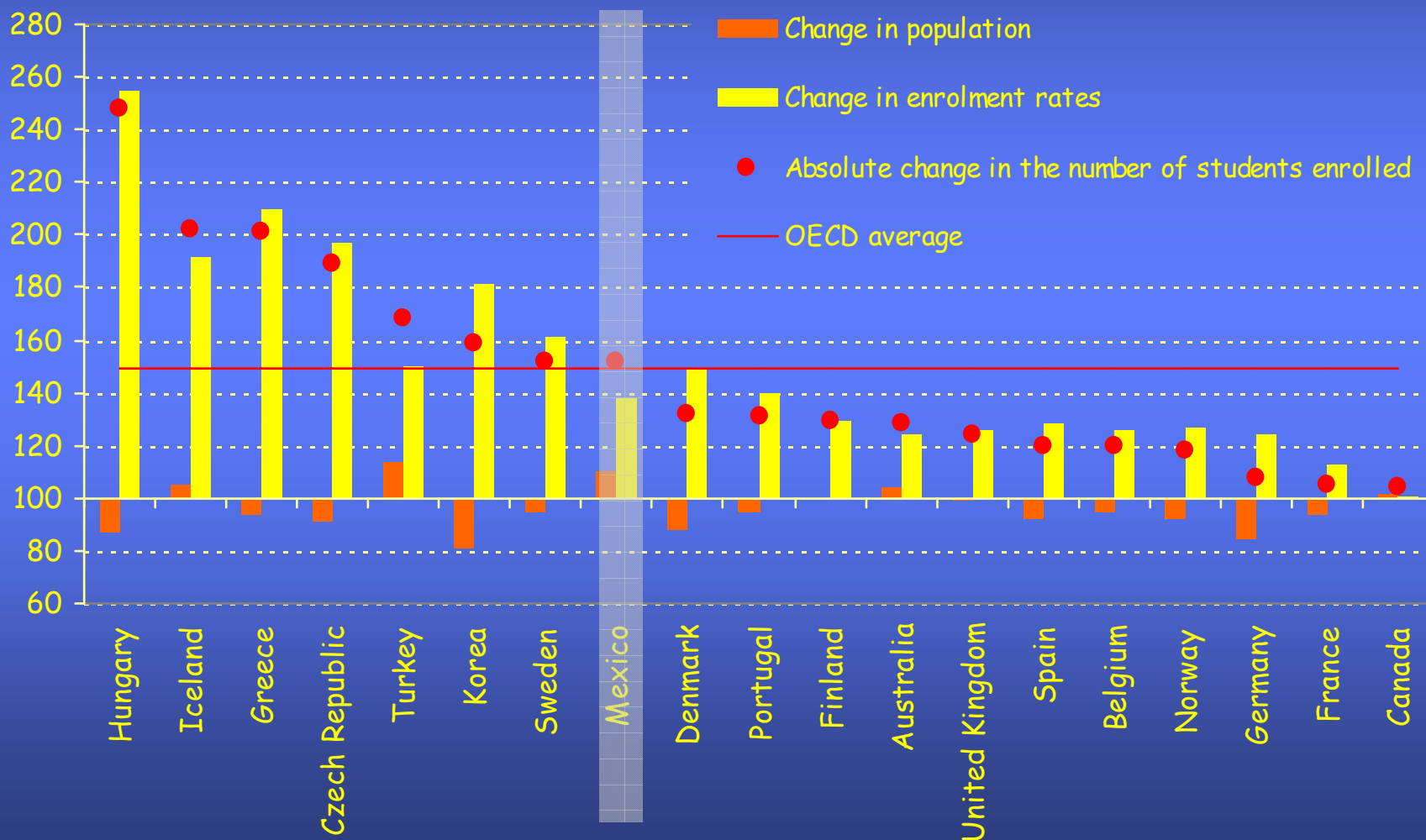
Percent of 15-19 year-olds who are in education, 1995 and 2004



Source: OECD, Education at a Glance, 2006.

## Change in higher education enrolment relative to changing participation rates and demography (1995-2004)

Index of change in the number of students enrolled at the higher education level between 1995 and 2004 and the relative contribution of demographic changes and changing enrolment rates (1995 = 100)



Source: OECD, Education at a Glance, 2006.

# Achievements

## Female participation in education exceeds that of males

In 2004, upper secondary graduation rates were considerably higher for females (41% of the population at the typical age of graduation) than for males (34%). While for the group aged 55-64, the percentage of males who attained at least upper secondary education was higher than that for females (15% against 11%), for the group aged 25-34, the same percentage was higher for females (27% against 24%).

## Gender parity has been achieved in tertiary education

In 2003, females represented 50 per cent of enrolments in tertiary-type A undergraduate programmes. Two and a half decades ago, women in tertiary education only averaged 17 per cent. Although there are programmes where men (e.g. engineering) or women (nursing, education, liberal studies) predominate, there are other areas where the ratio has been inverted, such as health sciences (currently 60 per cent women), as well as social sciences and business administration (currently 55 per cent women).

# Part 3

## Main Challenges

# Challenges

## Mexico has seen limited progress in ensuring that young people leave schools with strong baseline qualifications

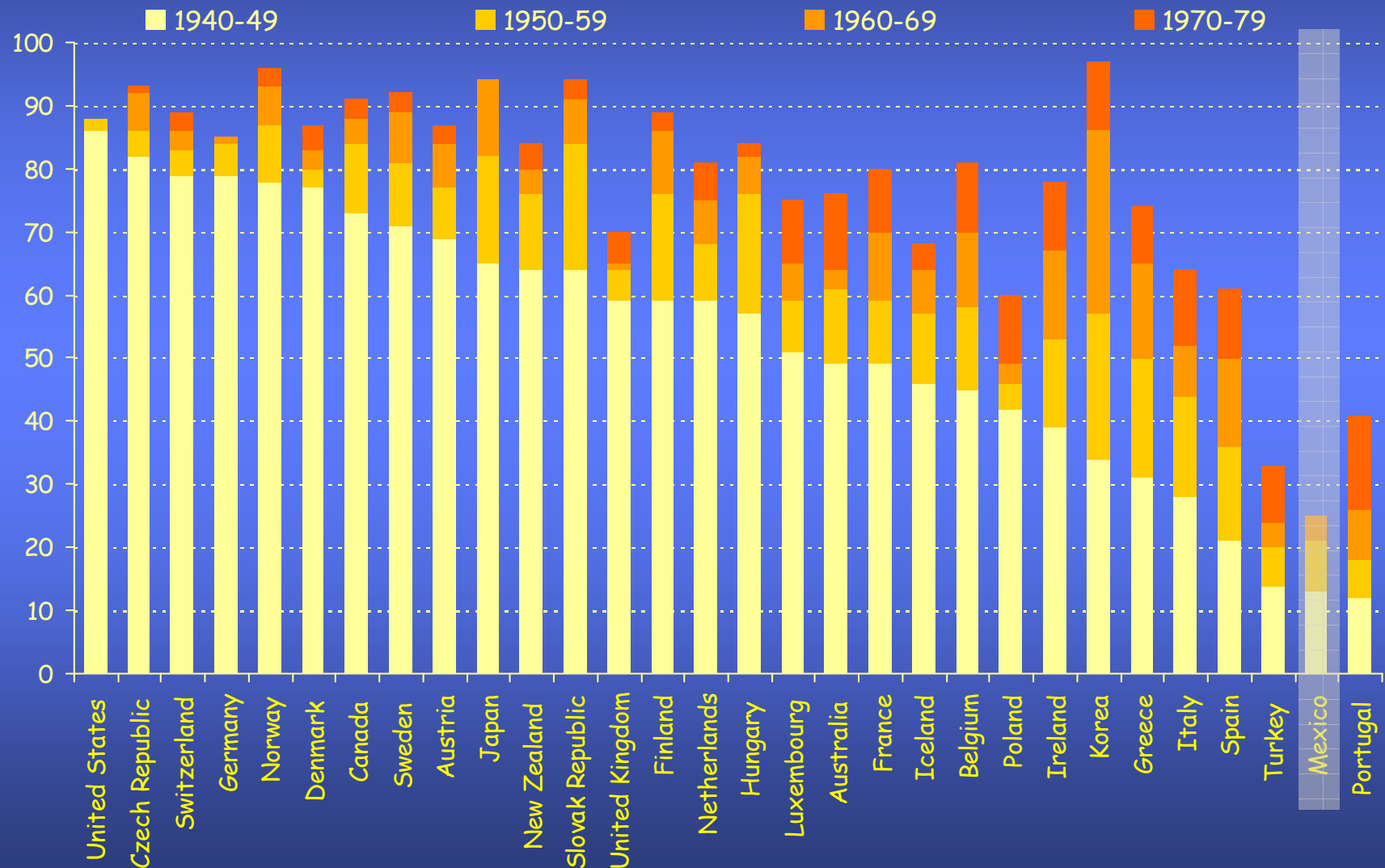
Only 25% of 25-34-year-old Mexicans have completed a baseline qualification at the upper secondary level, by far the lowest level among OECD countries, where this level of education is now becoming the norm. More worryingly, there has been much less progress in Mexico in raising educational attainment than in most other countries, such that Mexico has fallen behind in relative terms over past generations, from rank 28 among 45-54-year-olds to rank 29 among 35-44 year-olds to rank 30 among 25-34-year-olds. (See next slide)

## Enrolment levels are low in secondary schools

Primary school has become nearly universal, but enrolment in secondary education remains much lower than in other OECD countries (at 86.1% in lower secondary and 52.9% in upper secondary).

## Slow progress in baseline qualifications

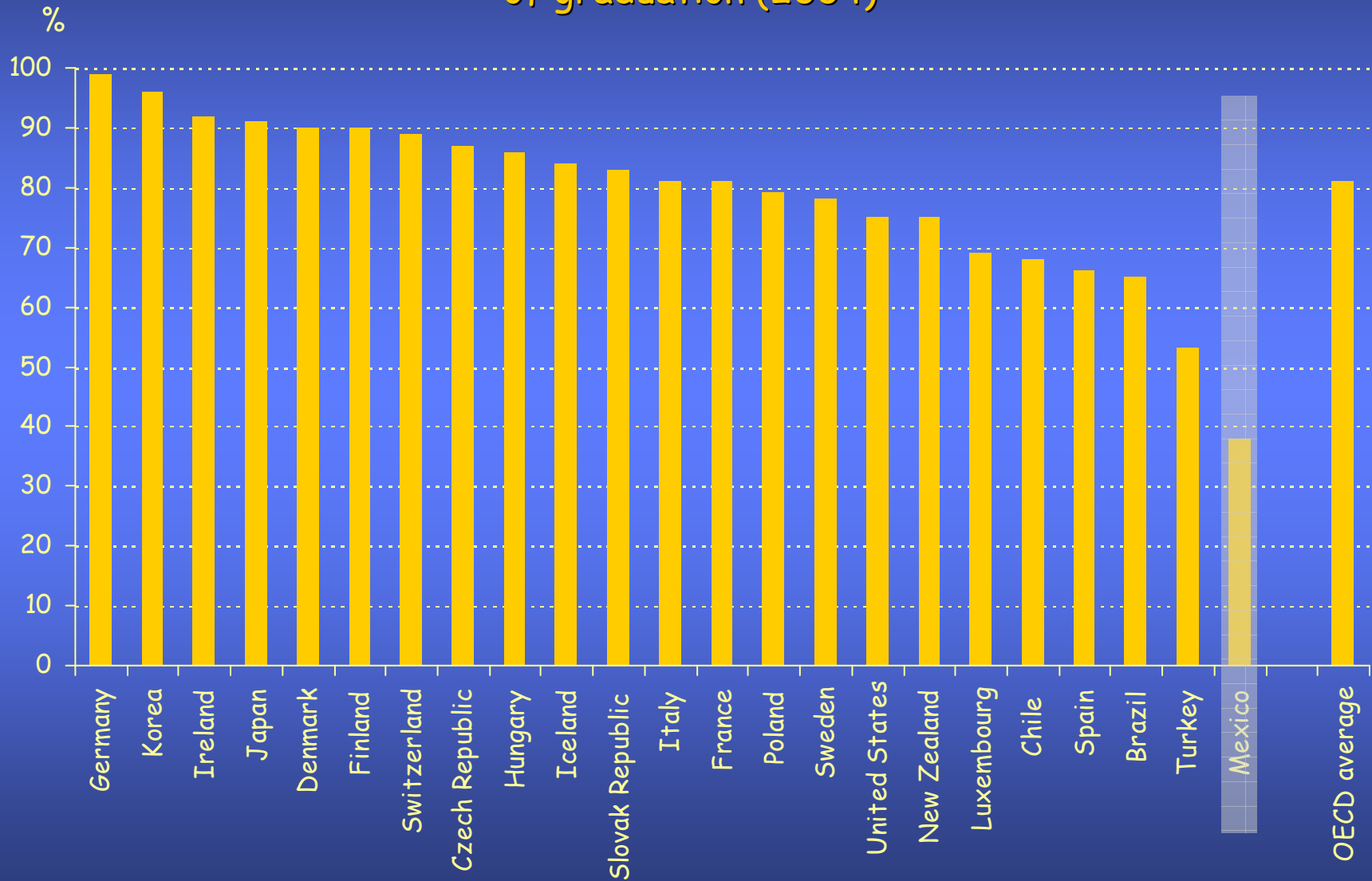
Approximated by the percentage of persons with secondary qualification born in the period shown below (2004)



Source: OECD, *Education at a Glance*, 2006.

## Very low upper-secondary graduation rates

Percentage of upper secondary graduates to the population at the typical age of graduation (2004)



Source: OECD, *Education at a Glance 2006*.

# Challenges

## The quality of education services has not increased in line with quantity

The achievements of Mexican students measured by national and international tests are significantly lower than in other OECD countries (see next slide). An average of 8% of students across the OECD fall below Level 1, the lowest level of proficiency. In Mexico 38% of the students are below Level 1 - this is the highest percentage of the OECD countries.

## Dropout and repetition rates are high

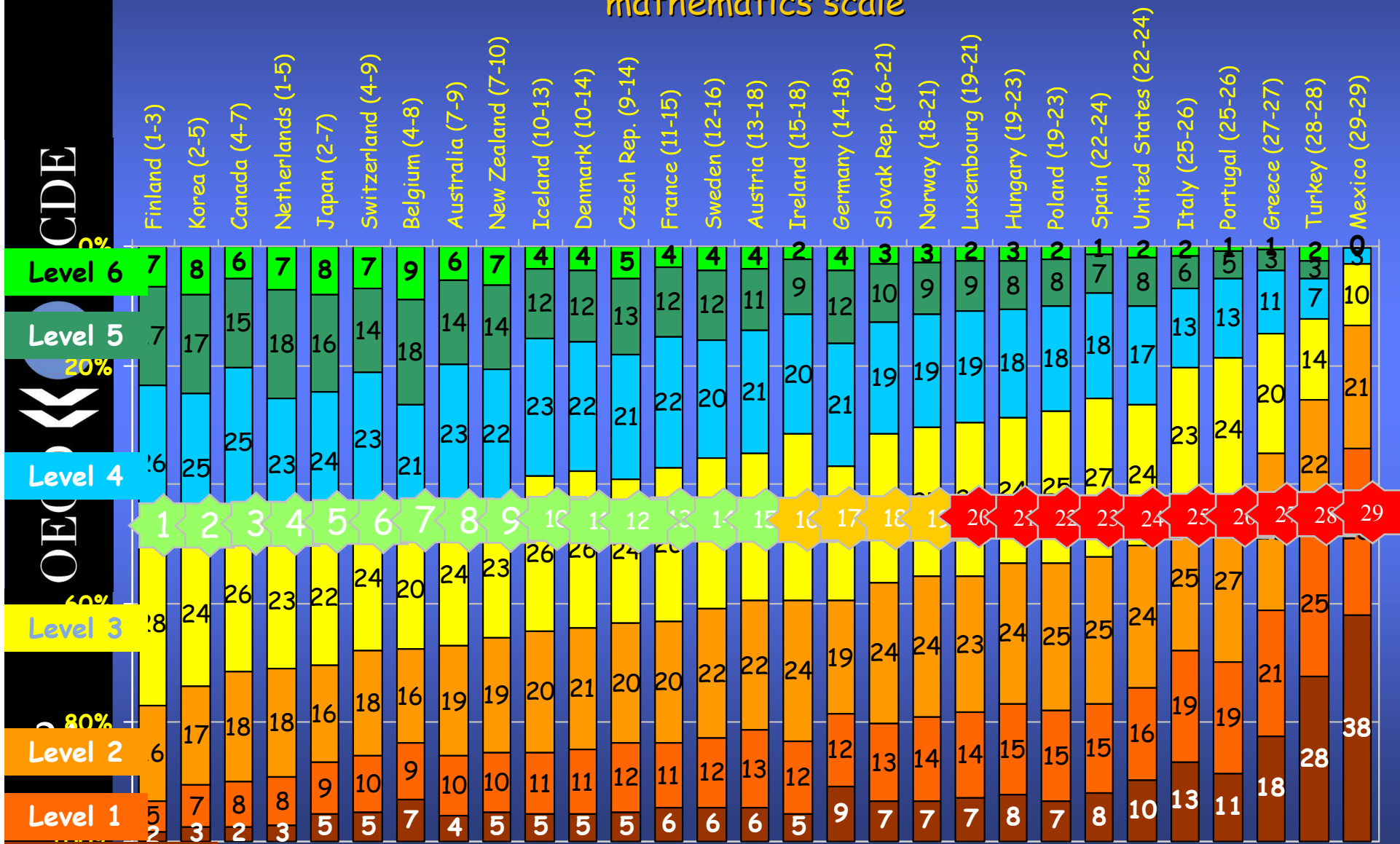
In grade 3 of primary education, for instance, about one tenth of students have repeated at least twice and more than one sixth have repeated once (see slide ahead). The drop out rate is 7.5% in lower secondary and 17.6% in upper secondary.

## The quality of the teaching workforce is a challenge

The selection and training of teachers present some weaknesses that are detrimental to the quality of education. Only the younger generation of teachers has the required level of education: in primary schools for instance, 60% of teachers do not have a bachelor degree (*licenciatura*). This is especially the case for indigenous schools and community courses. In secondary education, 70% of teachers hold university degrees but have no training in teaching. Until recently there were no entry examinations to teachers schools (*normales*), nor before starting to teach.

# Achievement of Mexican students in PISA is disappointing

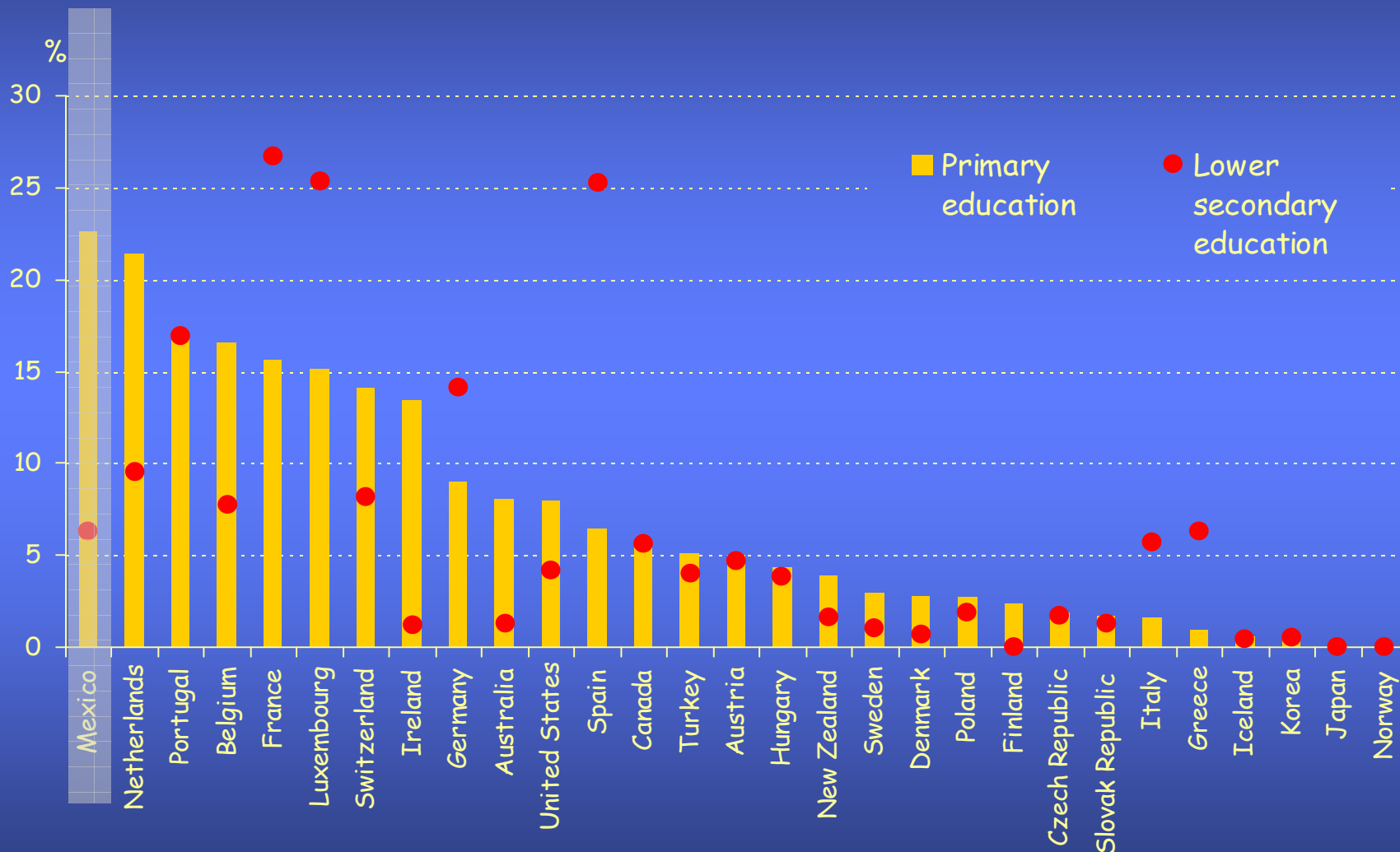
Percentage of students at each of the proficiency levels on the PISA mathematics scale



OECD (2004), *Learning for tomorrow's world: First results from PISA 2003*.

## A very high degree of grade repetition

Proportion of 15-year-old students who repeated at least a year in primary and lower secondary education



Source: OECD PISA Database.

# Challenges - Equity

## The importance of equity

Education, via its direct effect on employment opportunities and income, and its positive impact on health, social and economic integration and access to levels of decision-making, can limit the tendency for inequalities in income to repeat themselves from one generation to the next. Therefore, the education system is central in Mexico to reduce income inequalities and reduce poverty.

## Concept of Equity

Equity in education is a wide concept that covers both equity in access to, and ability to stay in the education system, as well as equity in treatment while there (including in terms of quality of the education services provided) and of opportunities when finished. Dimensions of equity include:

- Socio-economic background (e.g. family income, parental education);
- Gender;
- Immigrants and cultural minorities;
- Place of residence (e.g. remoteness)
- Age;
- Disability.

# Challenges - Equity

## Students from more educated families perform better

According to the PISA 2000 survey, 70% of students at the lowest level (level 0) have mothers who either did not go to school or at best finished primary. 59% of those between levels 2 and 5 have mothers who have at least completed basic education.

## Performance depends on cultural and socio-economic background

Eighty five per cent of the students speaking an indigenous language were at level 0 and none achieved level 4 or higher. The same evidence appears in national surveys: evaluation of basic education institutions shows that rural schools, *telesecundarias* and indigenous schools (where children from the poorest backgrounds are enrolled) are the ones which perform the worst.

## Resources are unevenly distributed

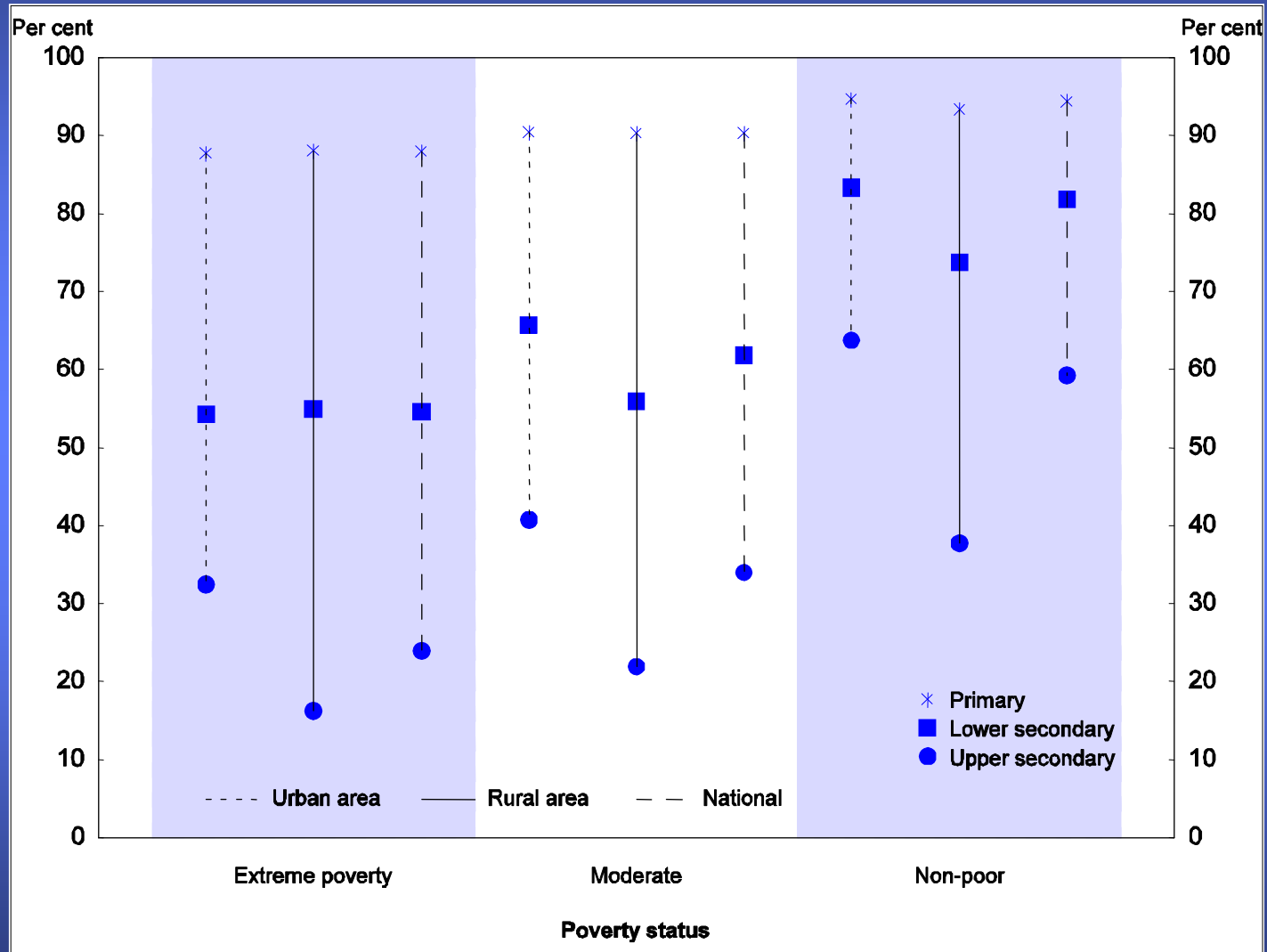
Rural areas (in particular indigenous schools and *telesecundarias*), where parents' involvement is low, cumulate poor infrastructure, poorly qualified and often absent teachers and students from difficult backgrounds. Besides, the financial incentive to attract and keep good staff in remote disadvantaged areas is ineffective. The fundamental issue remains the allocation of financial resources in the system, which should be more based on needs.

# Challenges - Equity

## There is little support for underachievers

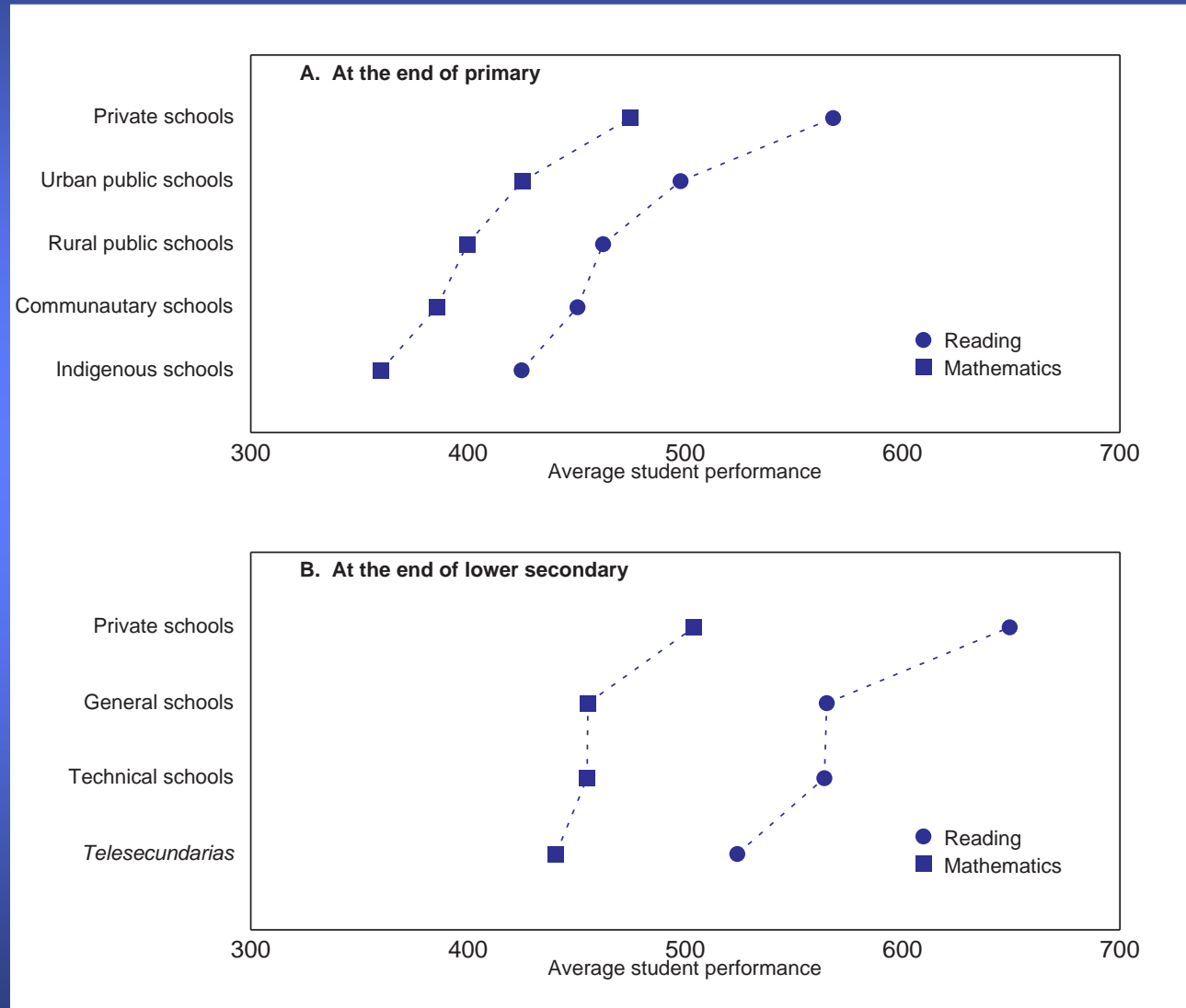
Apart from scholarships for low income students via *oportunidades*, there are no clear mechanisms in Mexico to take care of low achievers and prevent repetition and drop-outs. Teaching is usually provided for the average student and is not able to respond to class diversity in terms of age, interest and ability (see Velez, López-Acevedo, 2004). Repetition is seen as the best way to correct lags in learning, and students repeating a class do not receive any special support.

# Enrolment rates differ by poverty status and location, 2002



Source: World Bank, *Poverty in Mexico: an assessment of conditions, trends and government strategy* (2004).

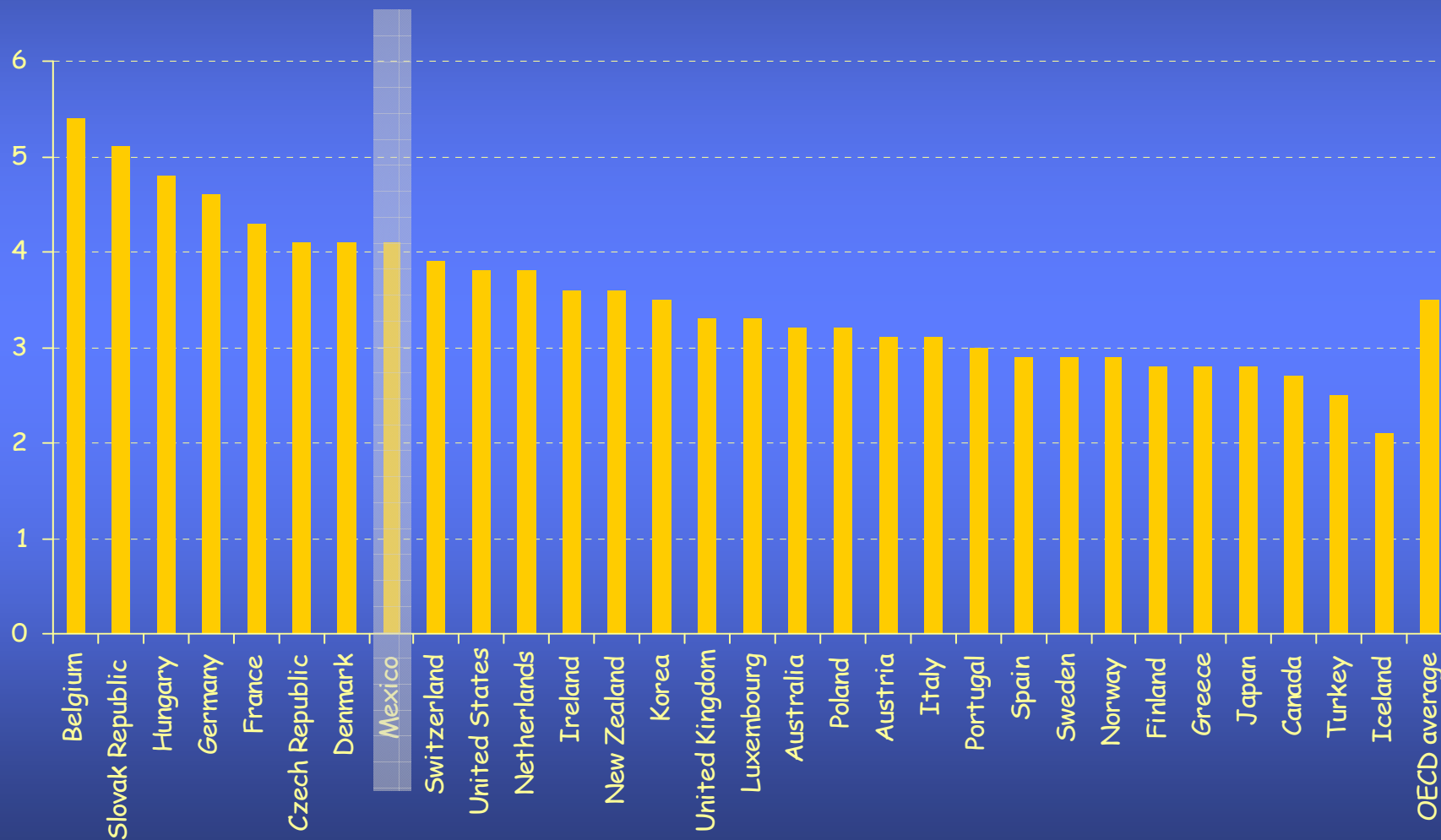
# Results of national tests differ by type of schools, 2004



Source: Ministry of Education, *La Calidad de la Educación Básica en México, 2004*.

# Odds ratio of student success in PISA-2003 depending on background

Odds ratios of the likelihood of students with the lowest socio-economic status to be lowest mathematics performers relative to the likelihood of students with the highest socio-economic status to be lowest mathematics performers (2003)



Source: OECD, PISA 2003.

# Challenges - Higher Education

## Limited Coverage

The proportion of individuals in a given age-cohort who enter tertiary education is considerably lower than the OECD average. In Mexico, in 2003, about 30 per cent of an age-cohort could expect to enter some form of tertiary education, against a proportion of 69 per cent across the OECD area.

## Sustained efforts needed to improve the qualifications of the academic workforce

As regards the qualifications of academic staff, in 2004-05, 8.3 per cent held a PhD degree, 33.6 per cent another postgraduate degree, 56.3 per cent an undergraduate degree, and 1.9 per cent a two-year degree.

## Narrow scale of the student support system

Despite the significant recent efforts, the tertiary education student support system still covers a limited numbers of students. The share of student financial aid in public expenditure on tertiary education is only 5.1 per cent (2.8 per cent for scholarships and 2.3 per cent for loans), the 4th lowest among the 27 OECD countries for which data are available. This suggests that the ability of the system to facilitate the participation of academically qualified students who do not have the financial means to access tertiary education is still fairly limited.

# Challenges - Higher Education

## Participation in Higher Education is highly inequitable

In 2000, 45 per cent of individuals aged 18 to 24 who lived in cities and who were from middle- and upper-income families attended tertiary education. By contrast, only 11 per cent of those living in poor urban areas and 3 per cent of those living in poor rural areas attended tertiary education. The 2000 Population Census also revealed that 37 per cent of young adults aged between 20 and 24 abandoned their studies for financial reasons. The participation of young adults in tertiary education is twelve times less likely for individuals from the lowest decile of the income distribution than that of individuals from the highest decile of the same distribution.

# Part 4

Recommendations - Delivering efficient and equitable school services

# Recommendations - Schooling

## Teaching Workforce

Develop a coherent set of policies to improve the effectiveness of the teaching workforce: improve the preparation of teachers; devise better mechanisms to select teachers; Provide schools with more responsibility for teacher personnel management; Evaluate and reward effective teaching; Provide more support for beginning teachers; Engage teachers in policy development and implementation.

## Curricula and teaching methods

Continue to modernise curricula and teaching methods, seek a better integration between education levels as well as more interaction with the productive sector.

## Decentralisation of responsibilities

Overall more progress is needed in terms of devolution to all schools and local authorities, especially as concerns the use of financial resources and staff management. Such devolution requires accompanying measures. First, schools principals, whose role should evolve from mainly administrative to a role more focused on improving learning processes, need training .Second, accountability has to increase.

## Evidence-based policy

Ensure that evaluation results are used to influence policy decisions, school management, and users' choice.

# Recommendations - Schooling

## Upper secondary and the vocational sector

Upper secondary education needs to be attractive, with good quality pathways for all, without dead ends, and effective links to the world of work. To facilitate the transition between schools and work, the attractiveness and quality of technical and vocational education have to be improved. Apprenticeship, which is almost nonexistent in Mexico, could be developed. And, at all levels, interactions with the business sector should be sought.

## Give priority to basic and secondary education

Basic education remains an equity priority because it includes the entire cohort. Within this sector, particular attention should be given to efforts to sustain the performance of those with learning difficulties. When budgets are limited, public expenditure on tertiary education will rarely be an equity priority.

## Participation of community

Promote a more active role for parents, and civil society in general. Schools need to target their efforts to improve communication with parents on the most disadvantaged homes and help to develop conducive learning environments to support the learning of disadvantaged children.

# Recommendations - Schooling

A better framework to take care of low achievers instead of relying only on repetition to repair lags in learning

- Extra resources need to be channelled through schools to help disadvantaged students. The labeling of particular schools as for disadvantaged children should be avoided.
- Interventions in the classroom have been found to be extremely effective to respond to underachievement. There are a variety of approaches such as formative assessment, effective monitoring and use of information to identify and intervene with strategies for learning with individual students and classrooms.

## Additional opportunities

Second chances are necessary for those who lack basic education and skills. These include programmes that provide literacy, primary and secondary education, work-based programmes, and arrangements to recognise informal learning.

## Distribute resources equally across regions and schools

Mexico needs adequate mechanisms to redistribute resources and minimise regional and school inequities of provision, so that minimum standards are met everywhere. In particular, provide more resources to indigenous bilingual education and telesecundarias.

# Part 5

Recommendations - Improving access and quality  
in higher education

# Recommendations - Higher Education

## System Co-ordination

Creation of a comprehensive body, such as a National Council or Forum of Tertiary Education, to assist with the integration of strategic leadership, policy planning and co-ordination among the main actors.

The mission of this proposed Consultative Forum would be to discuss increasingly global challenges, build agreement about the medium and long term priorities among the main actors and offer views on how they might be tackled.

## Expansion and diversification

The expansion of supply requires not only greater coherence with greater emphasis on equity but also, at the same time, with economic and labour market criteria.

The Federal government's promotion of new public institutions in the science and technology fields is to be sustained but should be the subject of an assessment.

## Funding

Three main principles should underlie the funding of tertiary education in Mexico: cost-sharing; on the basis of relevance; and backed by a comprehensive student support system.

Given the current state of play, securing these principles would entail the following priorities for policy development: (i) re-assess whether the current cost-sharing balance is sustainable and appropriately reflects the relative importance of private and societal benefits of tertiary education; (ii) improve the transparency of the allocation of funds to institutions and make it more consistent with the tertiary education strategy; and (iii) significantly expand the student support system.

# Recommendations - Higher Education

## Co-ordination of quality assurance

As a response to the rather fragmented organisational structure surrounding quality assurance, there are several arguments for combining some of the existing quality assurance agencies and accrediting bodies, creating a single agency with total responsibility for assuring quality in instructional activities of Mexican tertiary institutions.

## External quality assurance

It is imperative to reinforce the role of external quality assurance by introducing elements which are mandatory in nature. At a minimum, the following two elements should be introduced: (i) the mandatory cyclical external validation of internal quality assurance mechanisms; and (ii) the possibility that the single external agency initiates selected external evaluations of institutions, academic areas within or across institutions, or of a particular theme (e.g. distance learning, transition of graduates to the labour market).

## Regional Provision

Mexico must pursue its commendable policy of decentralizing the supply of tertiary education programmes, which assists the effort of making the development of the most marginalized regions of the country a priority.

# Recommendations - Higher Education

## Regional Innovation

Strengthen the role of local tertiary institutions in regional innovation systems. This involves seeking out regional partners to develop and commercialise research; informing their teaching by regional needs; providing support and perhaps leadership in regional governance; and making a broad range of contributions to civil society, for example, in cultural and community development; opening up facilities such as libraries, museums and sports centres to the public.

## Links to the labour Market

Initiatives to strengthen the connections between tertiary institutions and the labour market can be grouped into five categories:

- (i) reinforce partnerships between institutions and the business sector;
- (ii) formally involve employers and the business community in the development of tertiary education policy and the governance of institutions;
- (iii) make available extensive information about available programmes, labour market outcomes and employment requirements to students, institutions and employers;
- (iv) better connect institutions to the labour market through a formal qualifications framework; and
- (v) encourage institutions to engage further in lifelong learning and provide services to adult learners.

# Recommendations - Higher Education

## Equity

The response to reduce inequities in the access to and completion of tertiary education lies at four levels:

### (i) schooling policies

- overall schooling policies to increase secondary completion rates
- career guidance and counselling in schools
- expansion of tracks from vocational upper secondary education

### (ii) financial assistance to needy students

- expand the student support system
- means-tested scholarship scheme
- universal income-contingent loan scheme

### (iii) incentives for tertiary education institutions to widen participation and provide extra support for students from disadvantaged backgrounds

- incentives for institutions to attract less represented groups
- "affirmative action"
- expand tutoring services

### (iv) alternative types of provision to account for the cultural diversity of the population are to be encouraged (Universidades Interculturales).

# Addendum

Main initiatives and programmes  
in Mexico

## Specific initiatives in Mexico - Schooling

### Oportunidades -- a programme to reduce drop-out rates for children from low income families

*Oportunidades* began under the name PROGRESA in 1997, with the goal of developing human capital of poor households by increasing the demand of health and education services. Monthly monetary transfers and nutrition support are provided to poor women and children in return for increased use of education and health services. The programme provided financial support to 5 million households in 2004. Parker (2004) finds a significant favourable impact on enrolment as well as on the reduction repetition and drop-out rate.

*Oportunidades* was extended to the poor urban population and to upper secondary students; it is well rated for its effectiveness by development agencies and it is used as a model in other countries.

### Expansion of Preschool education

Preschool education is being generalised, with the 3 grades of preschool (3 to 5 year-olds) becoming progressively compulsory by 2008. Studies have shown that preschool is a way to ensure that, regardless of their social background, children are ready for school. For instance, PISA 2003 finds that participation in preschool generally has a positive impact on educational achievement later on.

# Specific initiatives in Mexico - Schooling

## Bilingual Schools

*Bilingual primary schools* were developed in indigenous areas in the 1980s and 1990s as a response to low educational outcomes of indigenous children and as a way to preserve the indigenous cultural heritage. According to Parker, Rubalcava and Teruel (2003), half the indigenous educational disadvantage is explained by a failure to learn Spanish. In bilingual schools, children are taught to read and write in their mother tongue and then in Spanish. International evidence shows that this approach is usually successful.

## Telesecundaria

*Telesecundaria* (television for lower secondary education) has been instrumental in increasing coverage in remote areas for half of the cost per student of traditional secondary schools.

## Programmes for migrant families

There are specific programmes targeting *children of migrants* who follow their parents and spend part of the year in their home town and the other part in the United States or in another Mexican state and may encounter specific problems of repetitive adaptation.

# Specific initiatives in Mexico - Schooling

## *Escuelas de calidad*

The quality school programme "*escuelas de calidad*" launched in 2001 to increase quality for primary education and covering now 22 000 schools allocates additional resources to non-wage expenditure, including teachers training, but its scope is very limited. *Enciclomedia* launched in 2004, as well as *Red Escolar* and *Edusat* are other examples of federal programmes directed at non-wage expenditure. In particular, *Enciclomedia* digitalises textbooks for the primary level and connects them to each other and to other sources. The government targets the equipment of all the classrooms for 5<sup>th</sup> and 6<sup>th</sup> grades of primary education by the end of 2006. This programme should give incentives to teachers to update their skills.

## *Reform of curricula and teaching practices*

The reform of curricula and teaching practices launched by the current administration goes in the right direction. In particular the reform of lower secondary pilot schools in 2005-2006 seeks a modernisation of the curriculum, a strengthening of the relationships between teachers and students, an increase in the duration of classes, and changes in the organisation of classes over the different grades and in the organisation of teaching. Further efforts are nevertheless needed, in particular in upper secondary education. Upper secondary education has been neglected up to now and enrolment drops sharply at the end of lower secondary.

# Specific initiatives in Mexico - Higher Education

## National Programme of Scholarships for Higher Education (PRONABES)

The largest system of student financial aid in tertiary education is the National Programme of Scholarships for Higher Education (PRONABES), launched in 2001 by the federal government in collaboration with state governments and public tertiary institutions. It is a means-tested scheme targeted at promoting the participation of Mexican students from lower socio-economic backgrounds in undergraduate tertiary programmes. In 2004-05, 5.8 per cent of all undergraduate students and 8.5 per cent of such students attending public institutions received PRONABES scholarships.

## *Universidades Interculturales*

A major positive development has been the recent creation of five intercultural universities (*Universidades Interculturales*) which are grounded on indigenous cultures and languages. This grants a means to respond to the needs and aspirations of indigenous communities, influential to the ongoing development of all Mexicans. The argument is that engaging in principles and practices of equity and linking with the community does make a difference in affecting the economic, social, and employment outcomes of the designated groups and bridging relationships between all Mexicans.