



# Skills for Life

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# Skills for life



## Outline

What do we mean by Skills?

Why are Skills Important?

Brain Development and Skill Formation

Early interventions Pay Off

Implications for Education Systems

Policy Agenda

# What do we mean by Skills?

“competencies, attitudes, beliefs and behaviors that are malleable (modifiable) across an individual’s development and can be learned and improved”

Guerra & Modecki

**Skills are not pre-determined:** we speak of skills rather than traits to avoid a sense of immutability.

**(some) Skills *can* be developed throughout life:** the formation of skills is a cumulative and dynamic process.

# What do we mean by Skills?

## Character

Soft skills, social skills, life-skills, personality traits

Openness to experience, conscientiousness, extraversion, agreeability, emotional stability

Self-regulation, perseverance, decision making, interpersonal skills

## Cognitive

Involving the use of logical, intuitive and creative thinking

Raw problem solving ability  
vs.  
knowledge to solve problems

Verbal ability, numeracy, problem solving, memory (working and long-term) and mental speed

## Technical

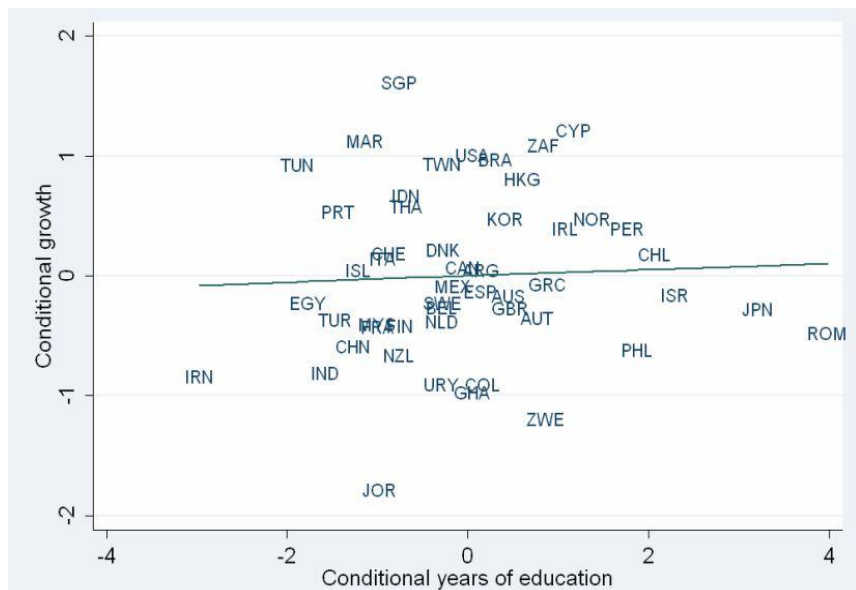
Involving manual dexterity and the use of methods, materials, tools and instruments

Technical skills developed through vocational schooling or acquired on the job

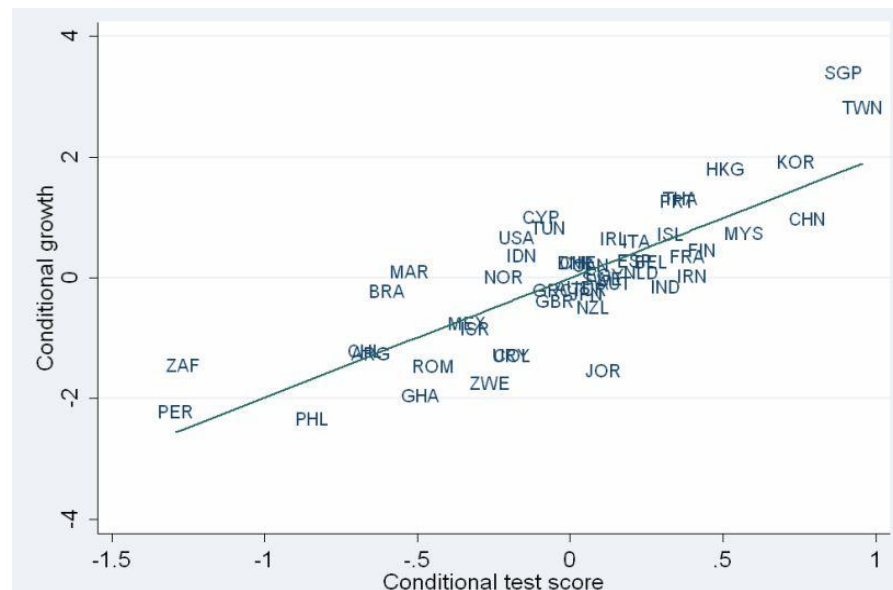
Skills related to a specific occupation (e.g. engineer, economist, IT specialist, etc)

# Why are Skills Important?

No macro correlation between years of schooling and growth



Strong macro correlation between test scores and growth

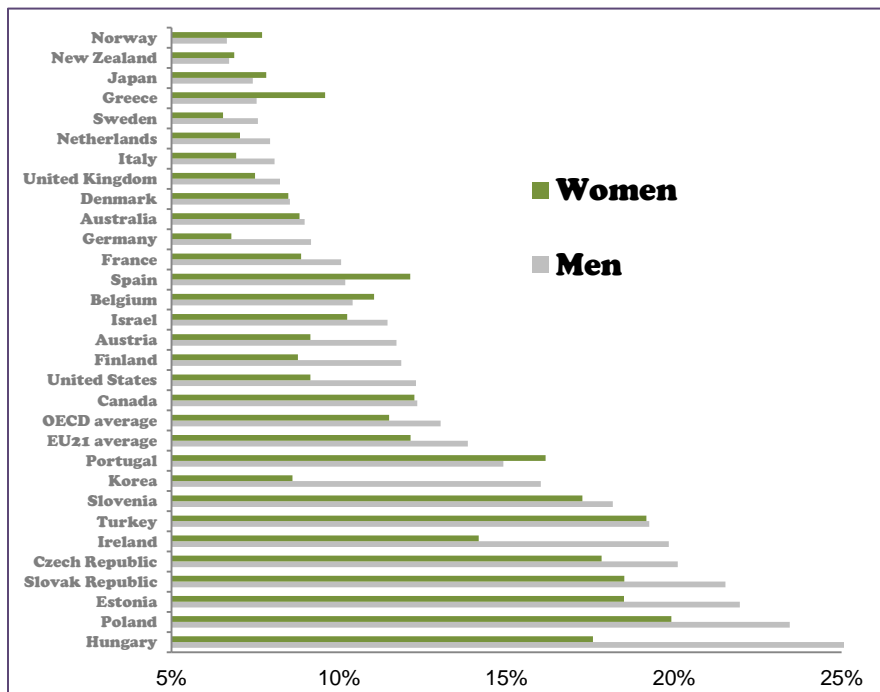


Source: Hanushek and Woessmann (2007)

Cognitive skills have large economic effects on national growth

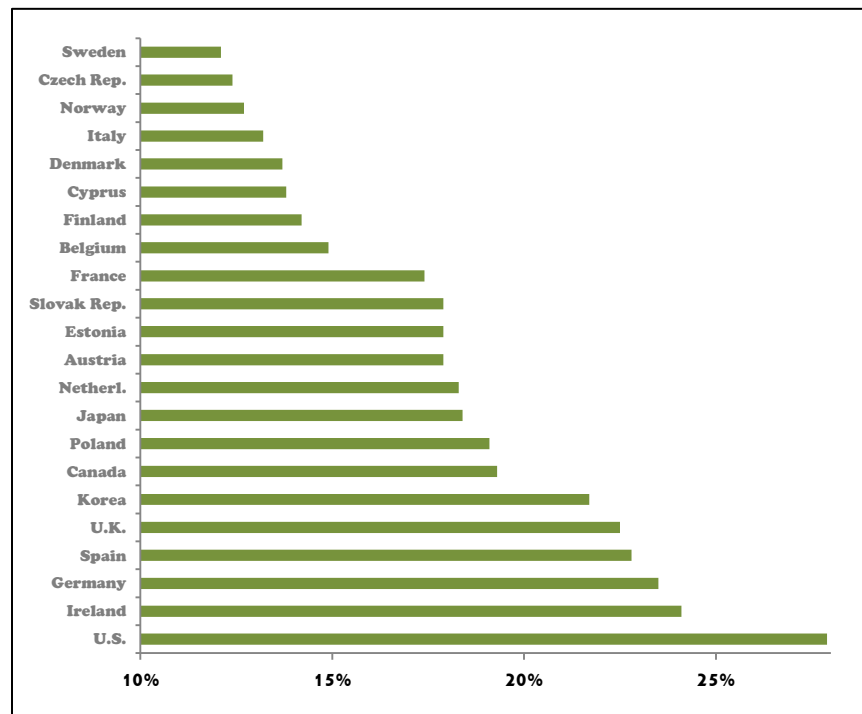
# Why are Skills Important?

Rate of return for tertiary compared to upper secondary education



Source: OECD Education at a Glance 2013

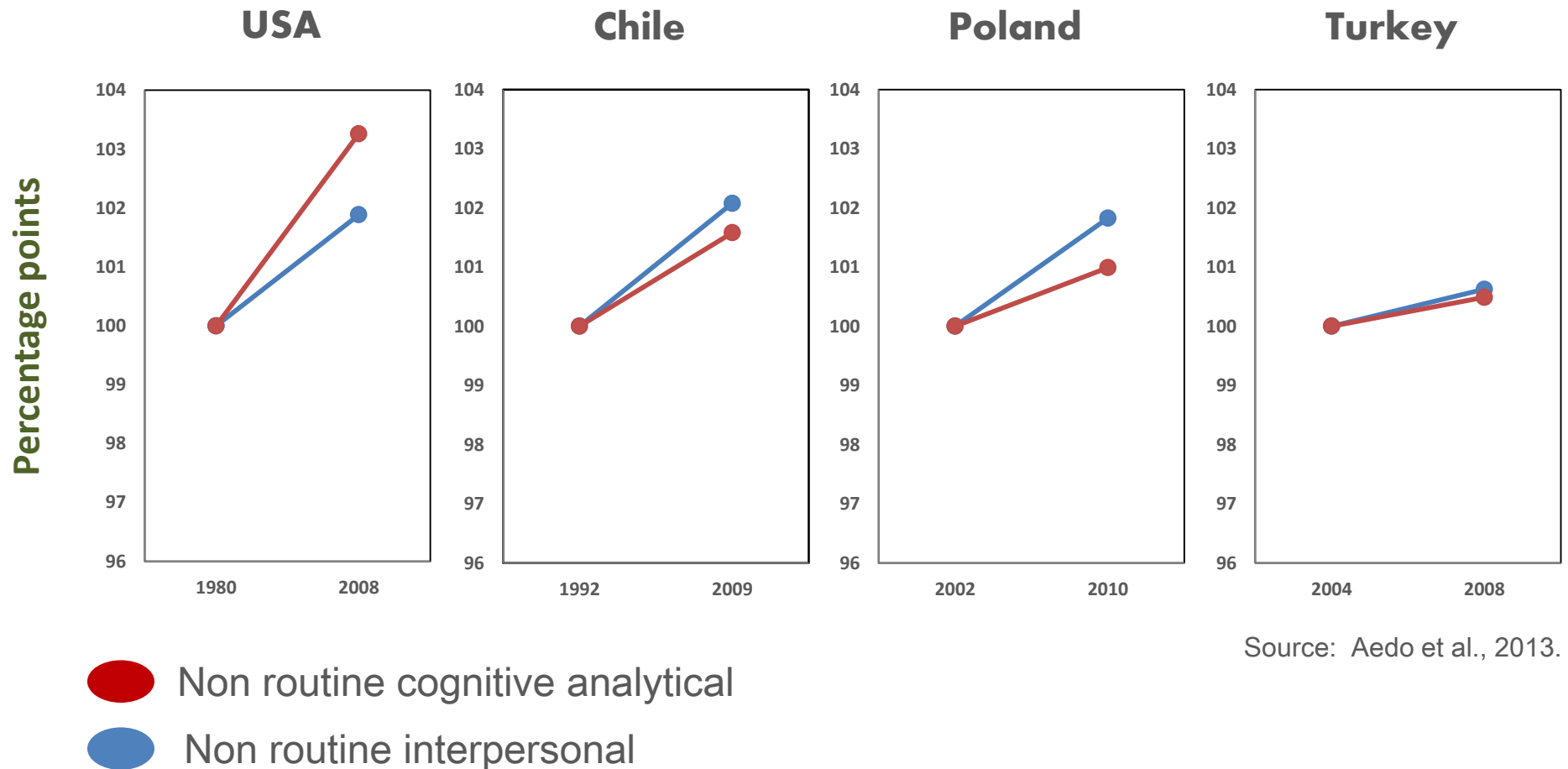
Returns to numeracy skills (PIAAC) for a selected number of countries



Source: Hanushek et al (2013)

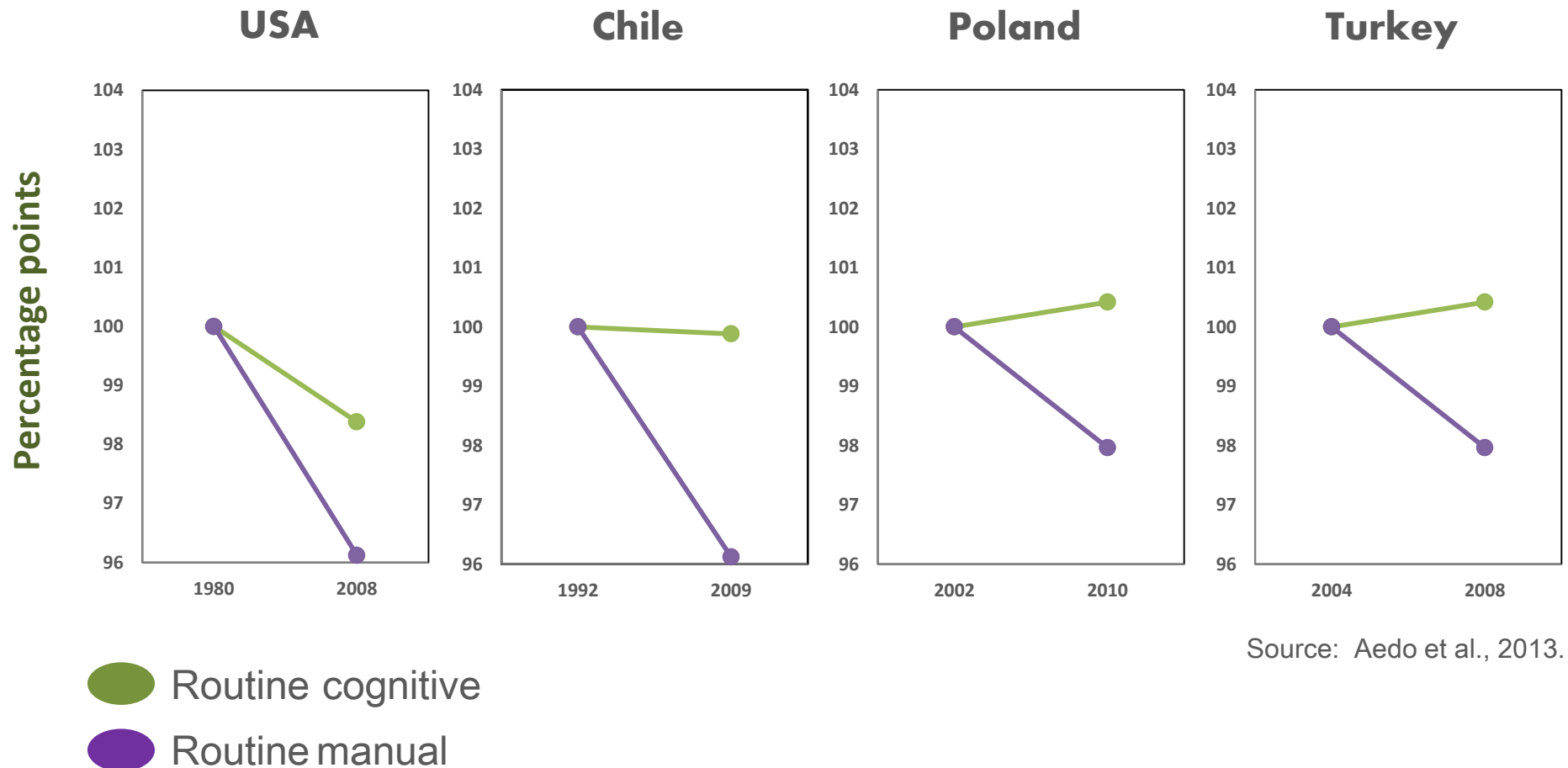
Cognitive skills have large effects on individual earnings

# Why are Skills Important?



Increasing demand for non-routine skills in many countries

# Why are Skills Important?

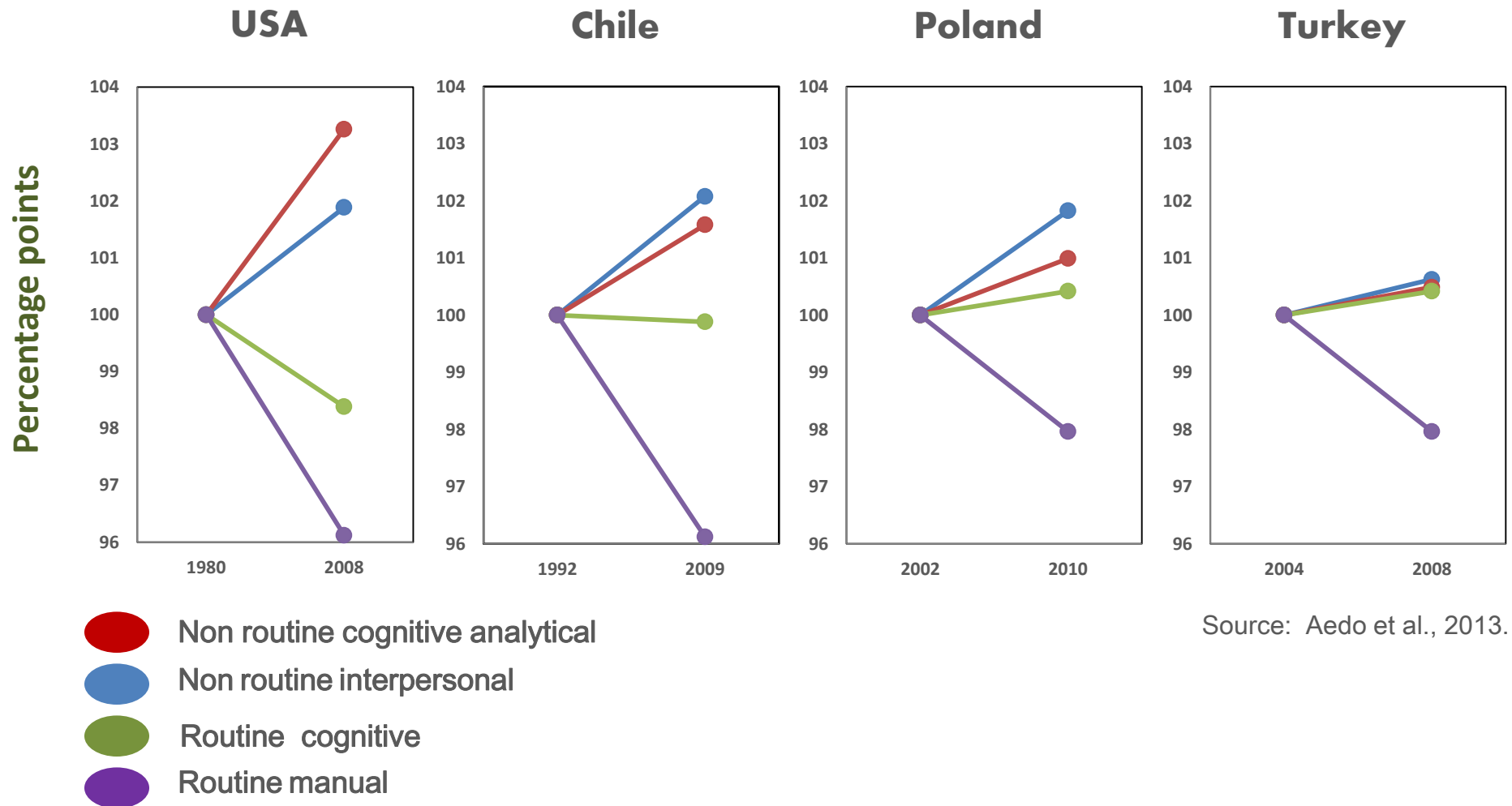


Source: Aedo et al., 2013.

.. Combined with stagnant or declining demand for routine skills



# Why are Skills Important?

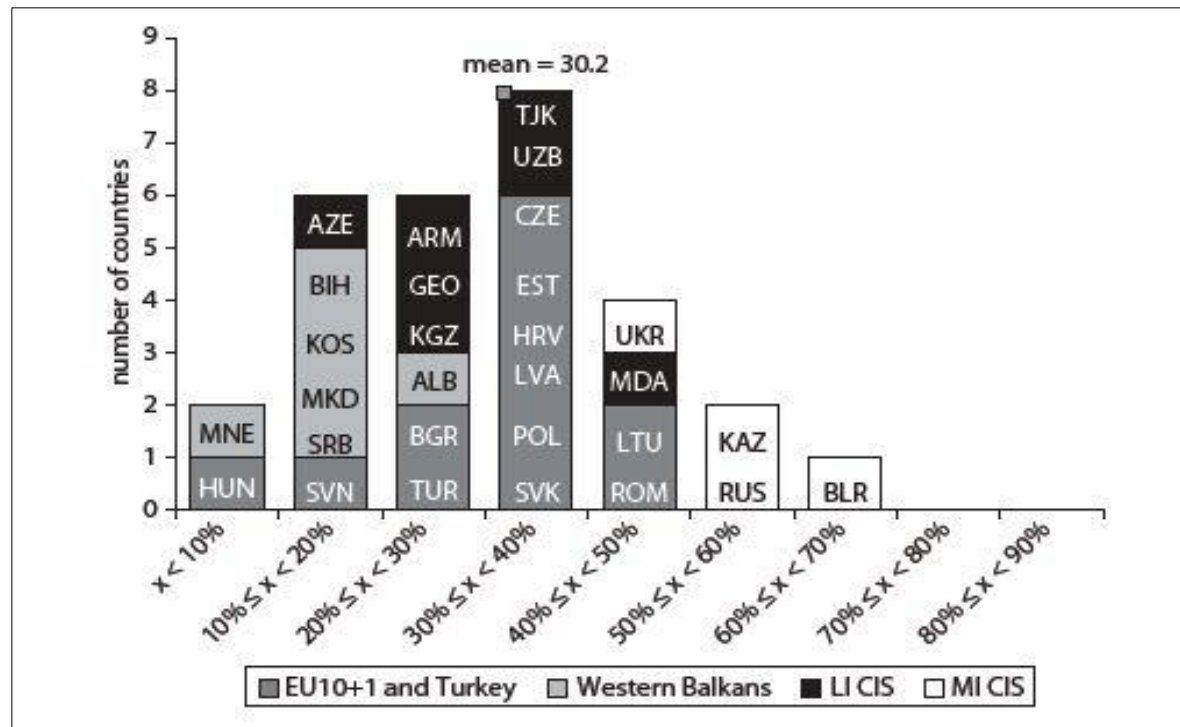


Source: Aedo et al., 2013.

Shifting demand for skills in the economy

# Why are Skills Important?

Distribution of Firms in ECA that Consider Worker Skills an important constraint (2008)

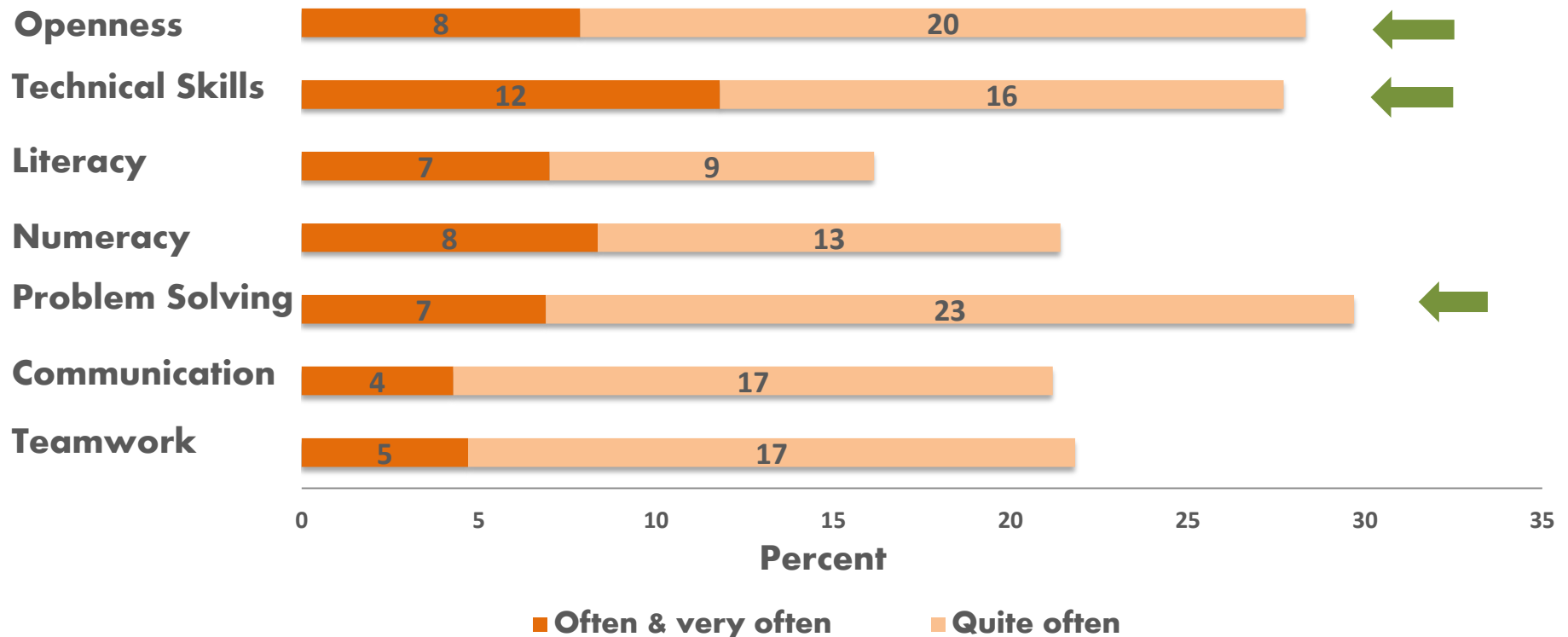


Source: Skills, Not Just Diplomas (World Bank)

Skills gaps are prevalent in Europe and Central Asia

# Why are Skills Important?

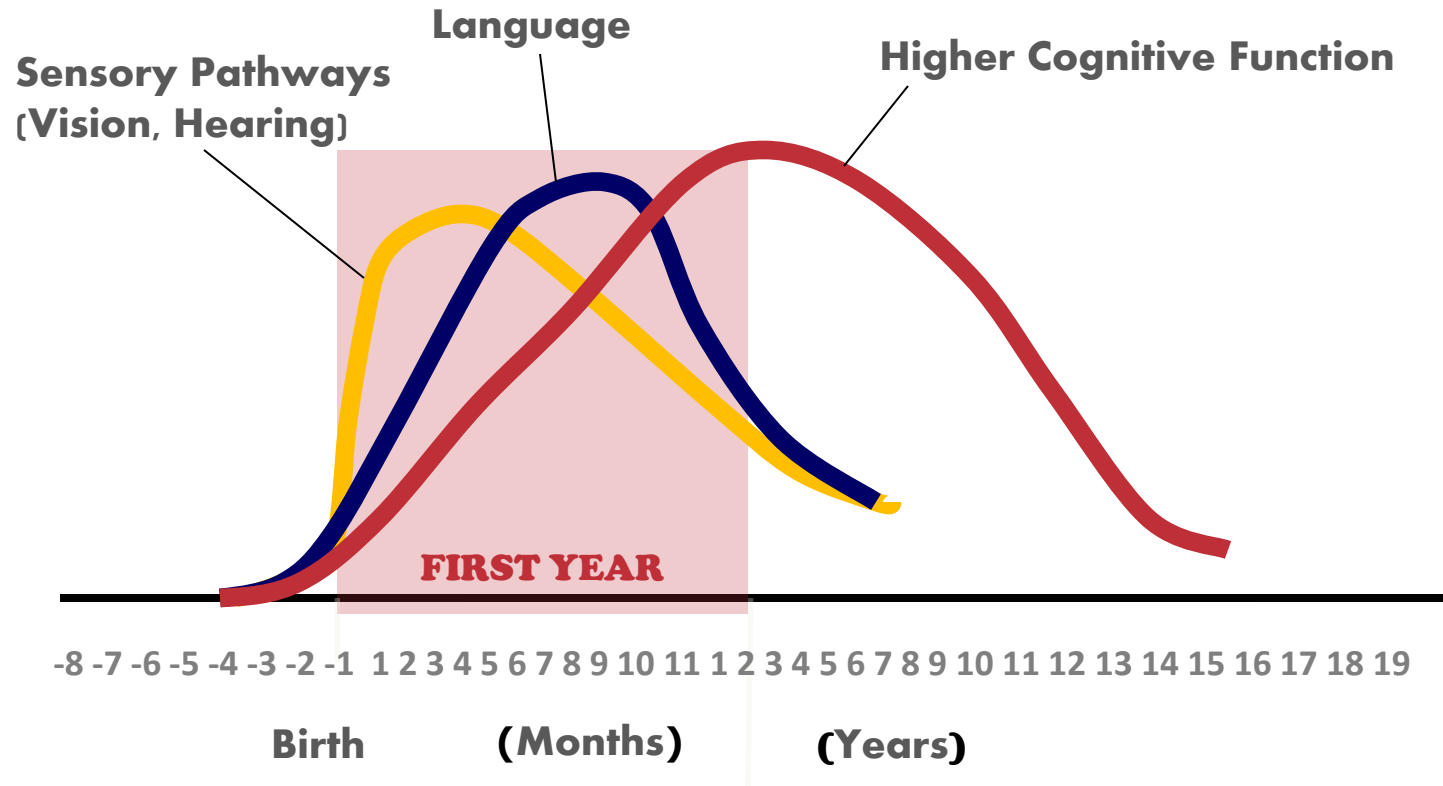
Georgia: Share of firms reporting lack of skills among “high-skilled” workers



Source: STEP Survey Georgia

Firms complain most about lack of character and high-order cognitive skills

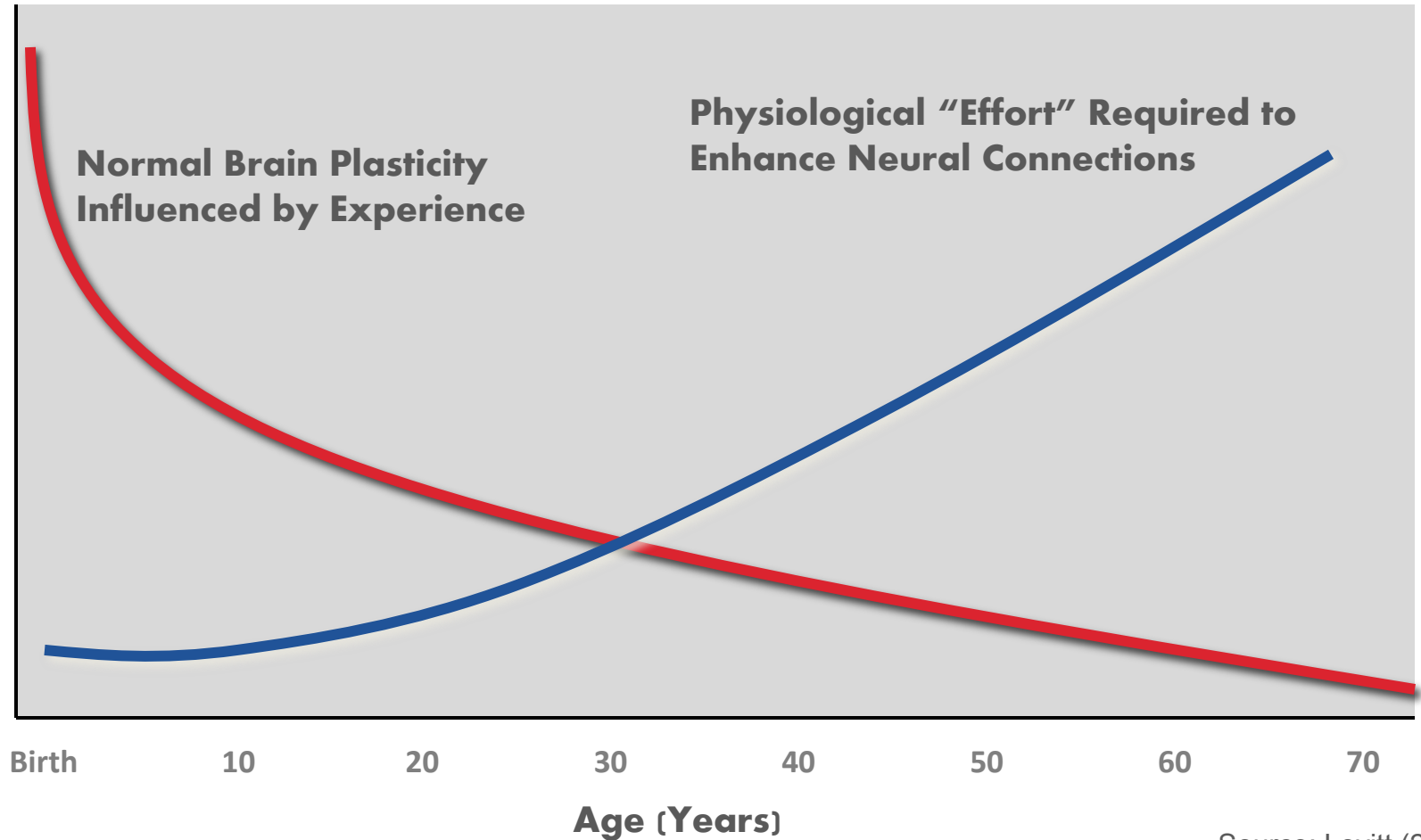
# Brain Development and Skill Formation



Source: Nelson (2000)

There is a strong case for investing early

# Brain Development and Skill Formation



Source: Levitt (2009)

**Brain plasticity decreases over time**

# Early Interventions Pay-Off

## Especially for poor children

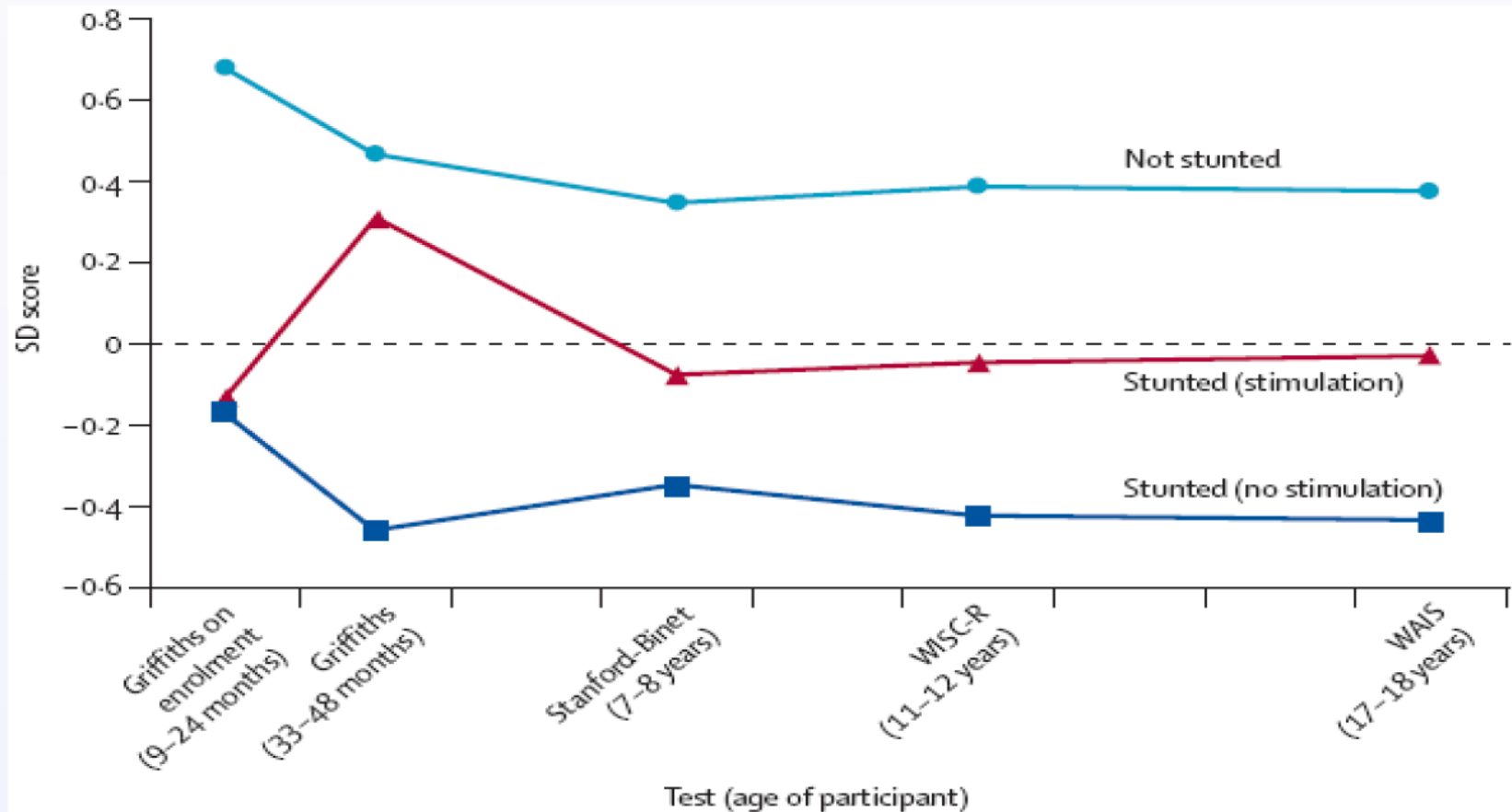
### Improved cognition and educational outcomes, especially in the short term

Effective **early stimulation** produces lasting effects on **cognitive skills** (Jamaican Study –age 1 and 2- and ABC –age 0)

**Preschool** (ages 3-4) attendance improved later **test scores** and **IQ** for low-income children in the short run but convergence over time (Perry)

**Preschool** attendance led to **higher enrollment rates**, **lower dropouts** and **lower repetition rates** (Argentina, Mozambique)

# Early Interventions Pay-Off



**Lasting cognitive effects in Jamaica program**

# Early Interventions Pay-Off

## Especially for poor children

### Improved character skills, lower criminality and higher productivity in the longer run

Higher level of **employability and earnings** (ABC, Jamaican Study, and others that start at ages 3 and 4). 25% higher earning for participants of Jamaica program

Lower rates of **substance abuse and criminal activities** (NFP,ABC), with **conscientiousness** as the biggest determinant, more than SES or IQ

Lower levels of **anxiety and depression**, and longer **life expectancy** (NFP, Jamaican Study, ABC)

Higher levels of **agreeableness and conscientiousness** behavior (Perry, ABC)



# Early Interventions Pay-Off

Especially for poor children

## When unpacking skills, we find that:

Demand for **analytical cognitive** skills increases with the **complexity** of the job

**Character skills** are a strong determinant of performance across **all** types of jobs and **life outcomes**

# Implications for Education Systems

Education systems rely mainly on tests that measure cognition to assess performance

Character skills also influence results on tests of cognition

Some character skills (agreeableness, extraversion, openness) are not correlated with test achievement but are highly correlated with life outcomes



**If education systems are serious about preparing students to be successful adults, they will need to aim for a better balance between character and cognitive skills**

Accountable education systems need data to assess performance and inform good practice in schools

# Policy Agenda

Interventions need to **target both cognitive and character skills** formation as both influence life outcomes

Programs aiming at **cognitive** development need to **start earlier**

More **robust measurement** of character skills is needed. Current measures -- self-reported skills (Big Five) or behavioral proxies (absenteeism or suspension from class) inadequate

Need **more research** on how best to **foster character skills** in education systems and at what ages



# Thank You

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