

# Global Macro-Demographics & Investment Implications (Middle-East Focus)

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# Demographics: A Different Perspective

## WHAT IT CONNECTS TO & INFLUENCES

**D:** Discount rates, Debt

**E:** Economic Growth, Efficiency, Structure

**M:** Mortality

**O:** Organisation Behaviour, Structure

**G:** Geography, Geopolitics, Governance

**R:** Robotics, Real Estate

**A:** Asset Prices, Asset Allocation

**P:** People, Pensions, Politics

**H:** Heterogeneity, Households

**I:** Inflation, Inequality, Institutions

**C:** Consumers, Culture, Cities

**S:** Sustainability

## WHO DOES IT PERTAIN TO?

All the “People” in the world and their characteristics. From an economic perspective, we restrict attention to them as “consumers and workers” in the world.

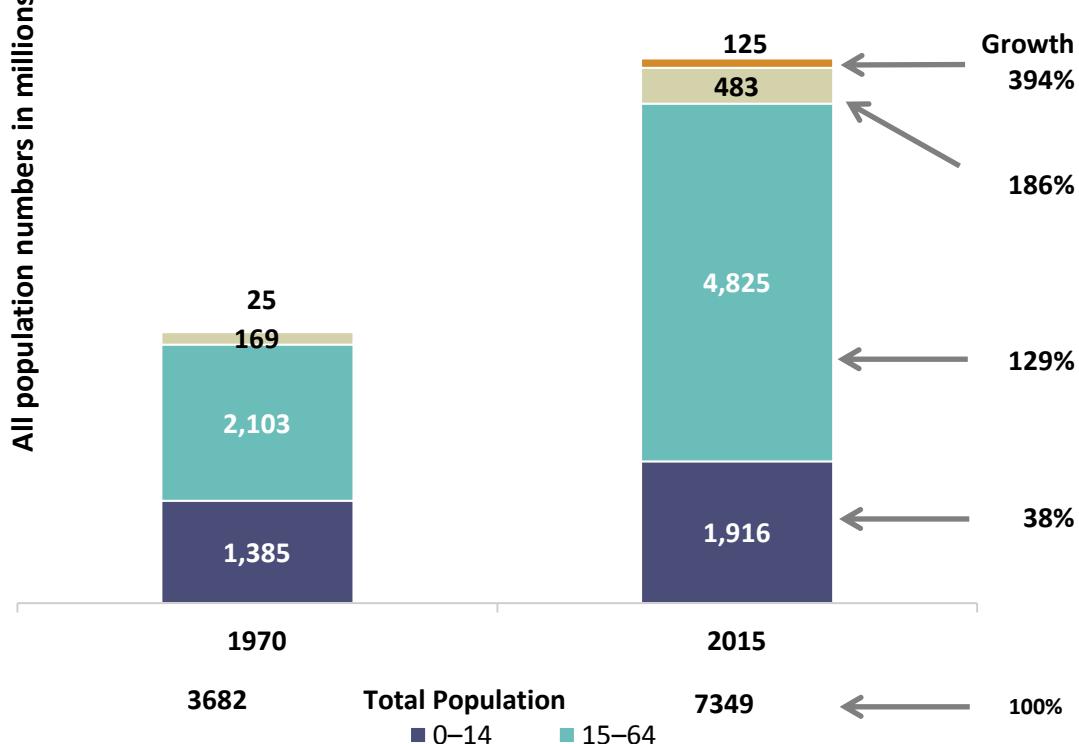
**It affects all Income Statements & Balance sheets in the world for**

- Individuals
- Households
- Corporates
- Nations

Unless otherwise stated, all data and all data sourced to "UN" is the most current data attributable to the United Nations Population Division. Data shown beyond 2015 is a UN projection.

# Super-old (80+) Age Group Fastest Growing

## World Population: 1970 versus 2015



### Share of 80+ Population

|         | 1970 (%) | 2015 (%) |
|---------|----------|----------|
| UK      | 2        | 5        |
| US      | 2        | 4        |
| Germany | 2        | 6        |
| Japan   | 1        | 8        |
| France  | 2        | 6        |
| Italy   | 2        | 7        |

Source: UN, CS, SSGA Demographics

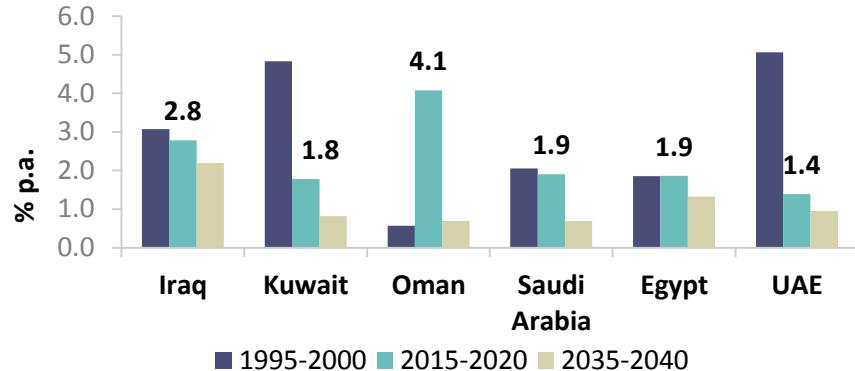
# The Demographic Manifesto (2000)

## Radical Policy Actions to mitigate the Ageing Time Bomb

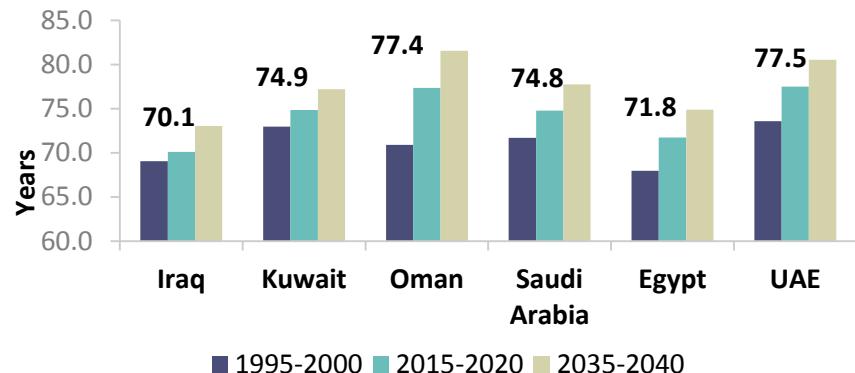
- **Abolish Mandatory retirement ages.** Adopt Flexible retirement.
- **Close** gender gaps to better utilize female work potential
- **Rethink & implement** immigration policies
- **Outsource and off-shore** non-core jobs based on costs and benefits

# Core Demographics: Middle East

## Annual Population Growth

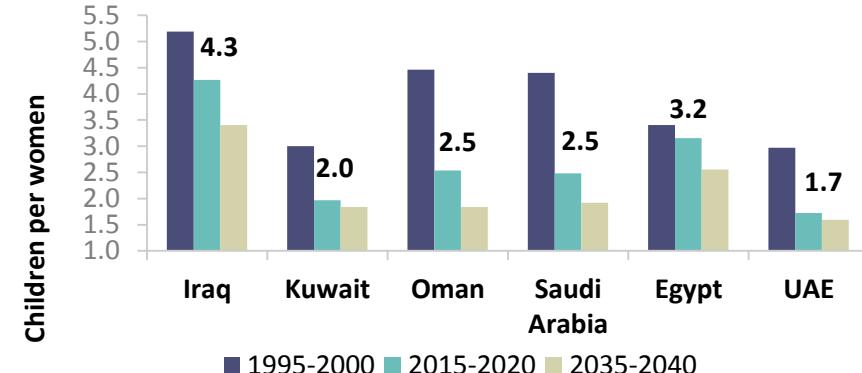


## Life Expectancy at Birth

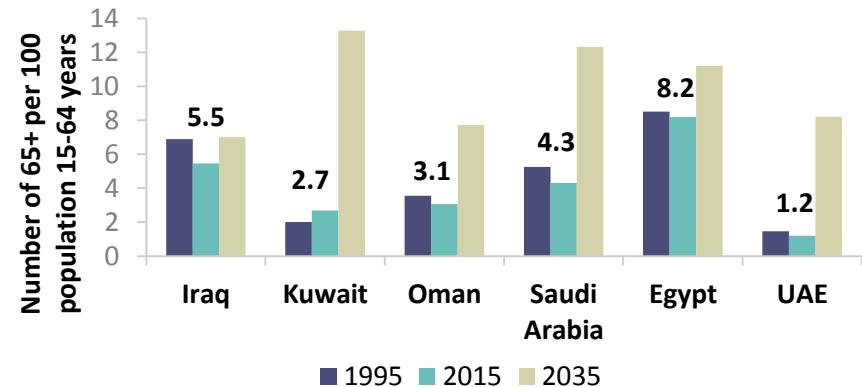


Source: UN, SSGA Demographics

## Fertility Rate



## Old Age Dependency Ratio



# How Increasing Longevity Affects Us All?

## Individuals & Families

- Challenge existing asset & time allocation frameworks & intergenerational dynamics

## Governments & Societies

- Policy changes in labour, education, health, pensions & social benefits necessary

## Asset managers, pension funds, insurance cos., banks, SWFs etc.

- Re-assess frameworks & assumptions.  
Develop new solutions for clients & new approaches to understanding longevity.

**Significant change in thinking and mind-set needed**

Source: IPE Pension Awards Speech (2013)

# Demographic Components of GDP Growth

## Working-age Population Growth

working-age population = population aged 15–64

## Labour Productivity Growth

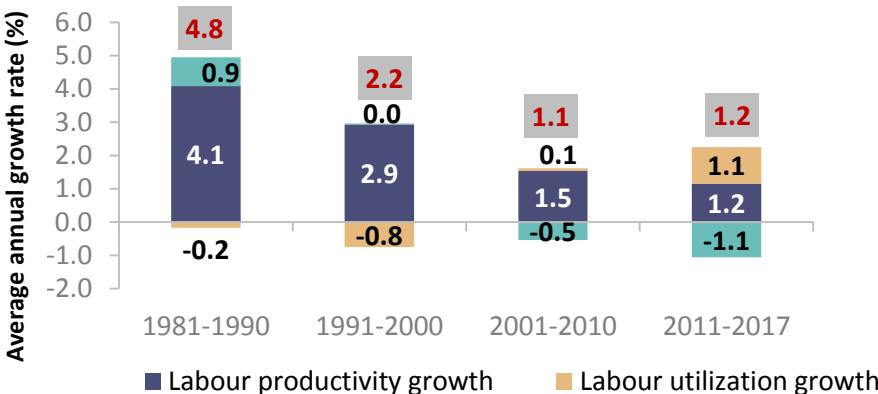
labour productivity = real GDP/ hours worked

## Labour Utilisation Growth

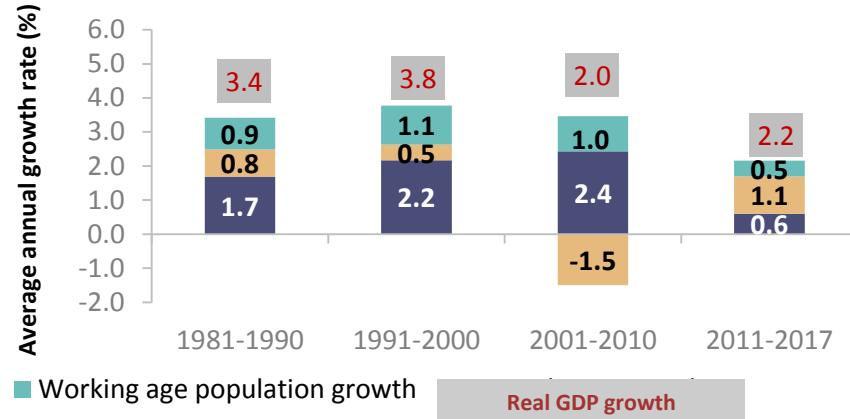
labour utilisation = hours worked/working-age population

G6 GDP growth rate has fallen dramatically. Main cause is declining labour productivity growth.

### Japan Real GDP growth: Contributions



### US Real GDP growth: Contributions



Source: SSGA Demographics, GGDC, UN

# GDP Structure: Middle East

National Income Identity (expenditures method):  $C + G + I + (X - M) \equiv GDP$

C = Consumption, I = Investment, G = Government, X = Exports, M = Imports

## GDP Breakdown (% of GDP)

|                         | Kuwait |      | Oman |      | Saudi Arabia |      |
|-------------------------|--------|------|------|------|--------------|------|
|                         | 2005   | 2015 | 2005 | 2015 | 2005         | 2015 |
| Household Consumption   | 32.1   | 41.3 | 30.6 | 33.1 | 26.3         | 40.3 |
| Government Consumption  | 15.7   | 24.6 | 20.8 | 27.4 | 21.3         | 30.0 |
| Gross Capital Formation | 16.4   | 25.0 | 21.4 | 35.9 | 20.2         | 35.1 |
| Exports                 | 64.0   | 54.4 | 58.3 | 56.1 | 57.1         | 33.3 |
| Imports                 | 28.3   | 45.3 | 31.1 | 52.5 | 24.9         | 38.8 |

|                         | United Arab Emirates |       | Iraq |      | Egypt |      |
|-------------------------|----------------------|-------|------|------|-------|------|
|                         | 2005                 | 2015  | 2005 | 2015 | 2005  | 2015 |
| Household Consumption   | 56.3                 | 57.1  | 64.9 | 59.3 | 71.6  | 82.4 |
| Government Consumption  | 7.9                  | 13.6  | 20.0 | 22.3 | 12.7  | 11.8 |
| Gross Capital Formation | 20.2                 | 24.9  | 22.2 | 24.4 | 18.0  | 14.3 |
| Exports                 | 67.6                 | 100.4 | 54.3 | 35.0 | 30.3  | 13.2 |
| Imports                 | 52.0                 | 96.0  | 61.4 | 41.0 | 32.6  | 21.7 |

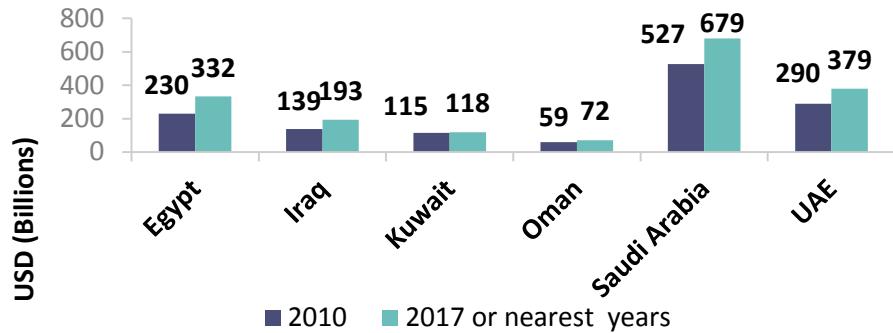
Openness of an economy is measured by the sum of exports + imports as a ratio of GDP:

100% (Kuwait), 109% (Oman), 72% (Saudi Arabia), 196% (UAE), 76% (Iraq), 35% (Egypt)

Source: World Bank, SSGA Demographics

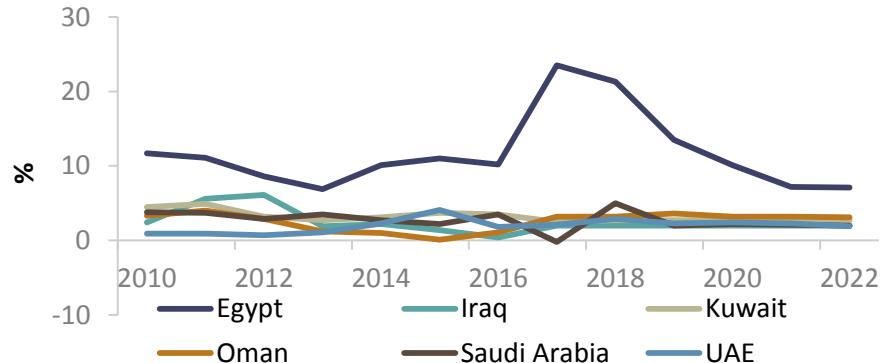
# Middle East: Core Economic Indicators

## GDP, current prices



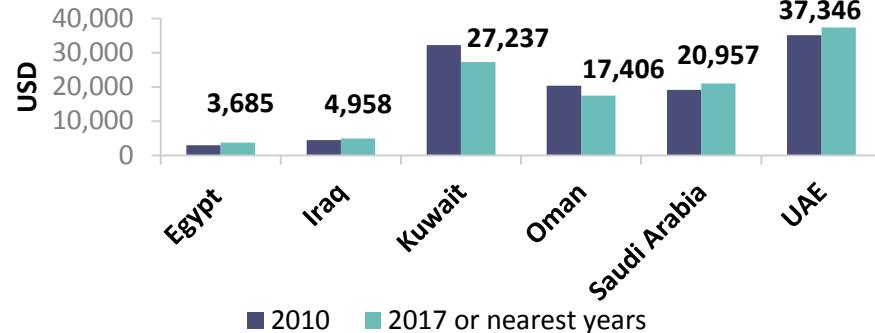
Egypt data relates to 2016. Others refer to 2017.

## Average Consumer Prices (Annual Change %)



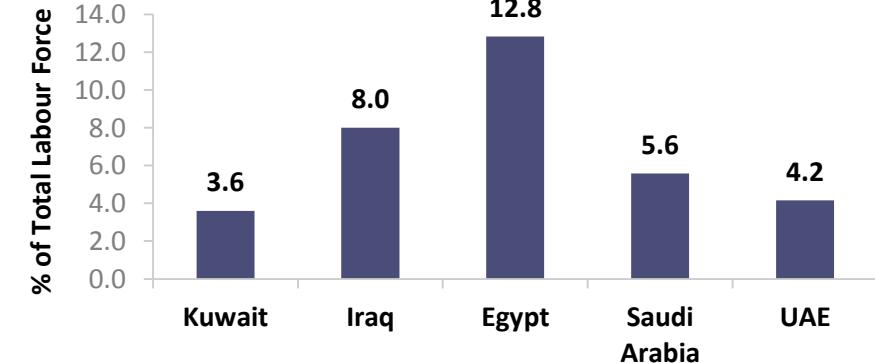
Source: IMF, WB, SSGA Demographics

## GDP per capita, current prices



Egypt data relates to 2016. Others refer to 2017.

## Total Unemployment Rate

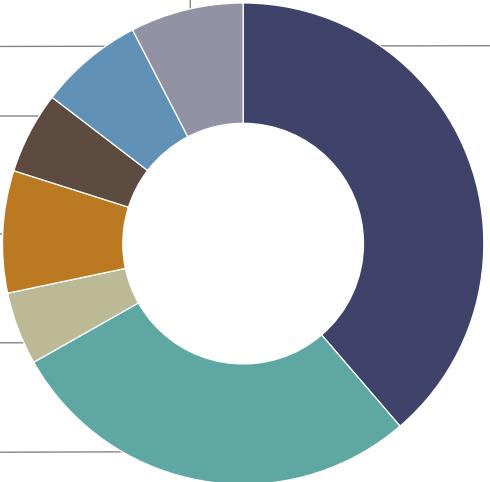


Data for Saudi Arabia and Egypt is as of 2015. Data for Kuwait and Iraq is as of 2011. Data for UAE is as of 2009.

# Unsustainable Fiscal Strains (Ageing Related)

## EU28, 2014, % of total benefits

|                      |       |
|----------------------|-------|
| Others               | 7.6%  |
| Disability           | 7%    |
| Survivors            | 5.5%  |
| Family and Children  | 8.2%  |
| Unemployment         | 4.9%  |
| Sickness/ Healthcare | 28.1% |



Old Age  
38.7%

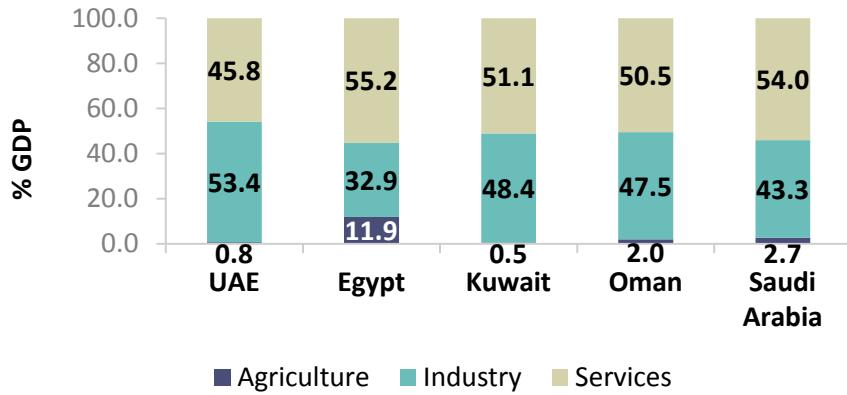
- In most EU countries, age related expenditures currently account for 20% + of GDP
- This is **unsustainable currently and in future** without radical reform

Source: EC, SSGA Demographics

|             |      | Pension (%) | Health Care (%) | Long-term Care (%) |
|-------------|------|-------------|-----------------|--------------------|
| UK          | 2020 | 7.4         | 8.1             | 1.2                |
|             | 2060 | 8.4         | 9.1             | 1.5                |
| France      | 2020 | 14.6        | 8.0             | 2.1                |
|             | 2060 | 12.1        | 8.6             | 2.8                |
| Italy       | 2020 | 15.3        | 6.2             | 1.9                |
|             | 2060 | 13.8        | 6.7             | 2.7                |
| Germany     | 2020 | 10.3        | 7.9             | 1.7                |
|             | 2060 | 12.7        | 8.2             | 2.9                |
| Denmark     | 2020 | 8.7         | 8.5             | 2.7                |
|             | 2060 | 7.2         | 9.0             | 4.5                |
| Greece      | 2020 | 15.5        | 6.6             | 0.5                |
|             | 2060 | 14.3        | 7.9             | 0.9                |
| Netherlands | 2020 | 7.1         | 7.5             | 3.8                |
|             | 2060 | 7.8         | 8.1             | 7.1                |
| EU28        | 2020 | 11.2        | 7.2             | 1.8                |
|             | 2060 | 11.2        | 7.8             | 2.7                |

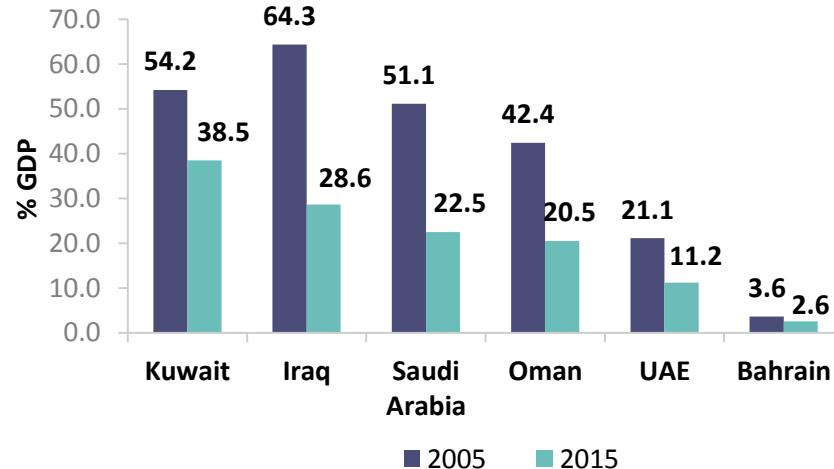
# Middle East: Value Added & Oil Rents

Value added for different sectors, % GDP



UAE data relates to 2010. Others refer to 2016.

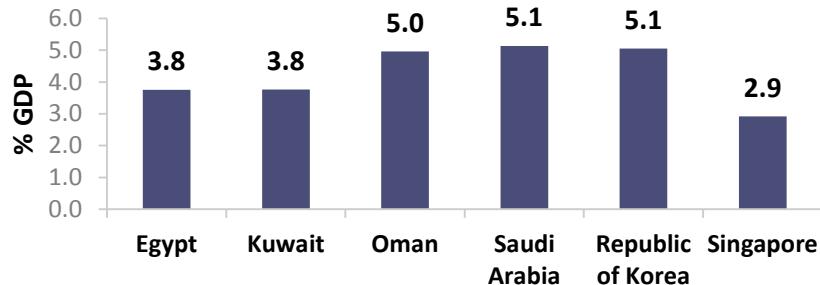
Oil rents (% GDP)



Source: World Bank, SSGA Demographics

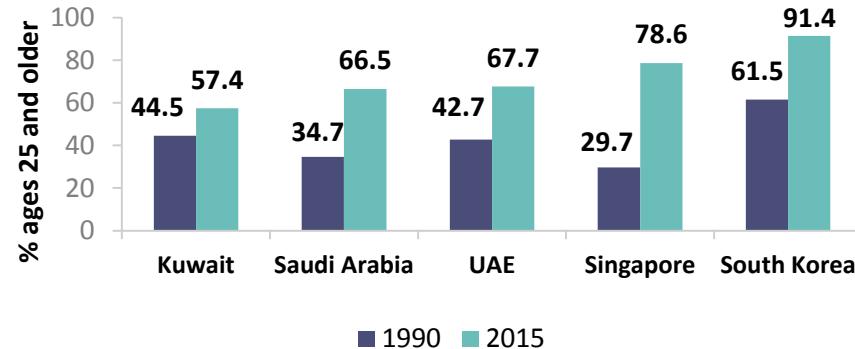
# Education Indicators

## Government expenditure on education, Total (% of GDP)

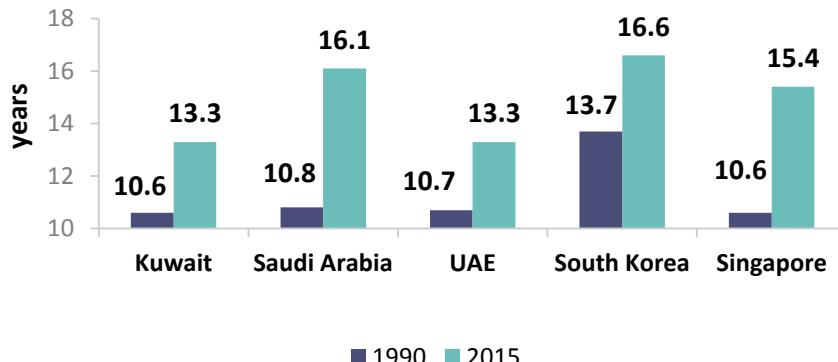


Data last updated: Egypt (2008), Kuwait (2006), Oman (2013), Saudi Arabia (2008), Republic of Korea (2015), Singapore (2013)

## Population with at least some secondary education (% ages 25 and older)



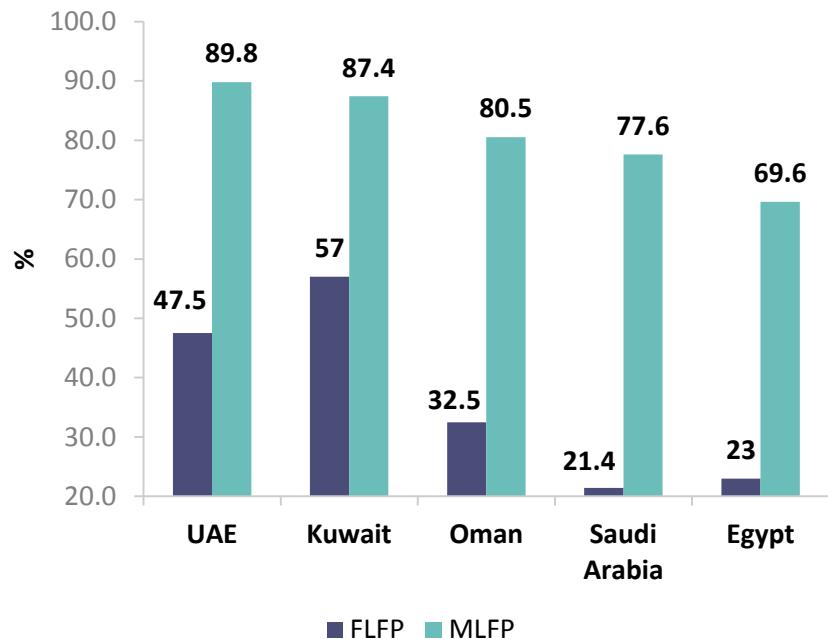
## Expected years of schooling (years)



Source: UN, World Bank, SSGA Demographics

# Middle East: Gender Differences

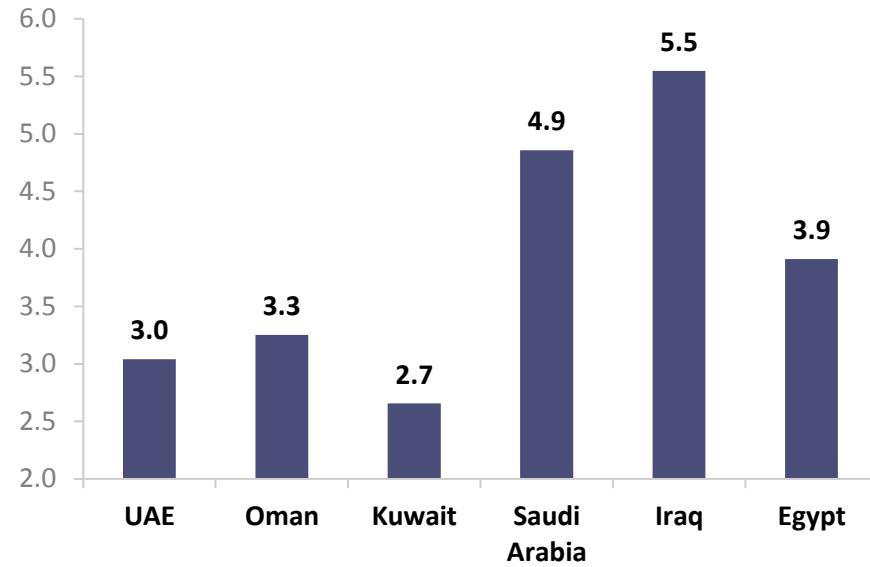
## Gender Labour Participation Differences



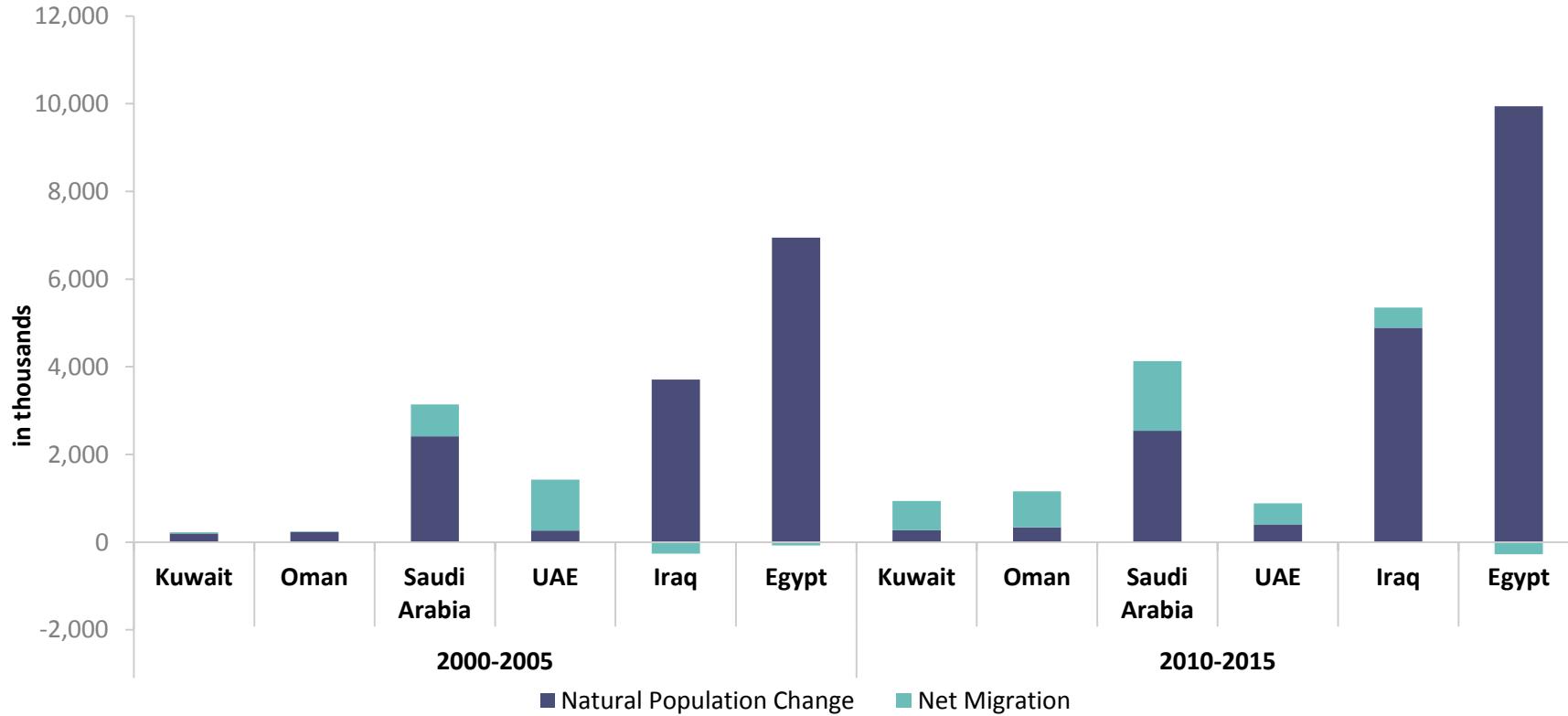
All data is as at 2016 except Saudi Arabia (2015).

Source: UN, SSGA Demographics

## Ratio of Male GNI per capita to female GNI per capita 2013 in 2011 PPP



# Middle East: Population Change Decomposed



Source: UN, SSGA Demographics

# Demographics & Monetary Policy

## My view since 2005

### Effects of Interest Rates:

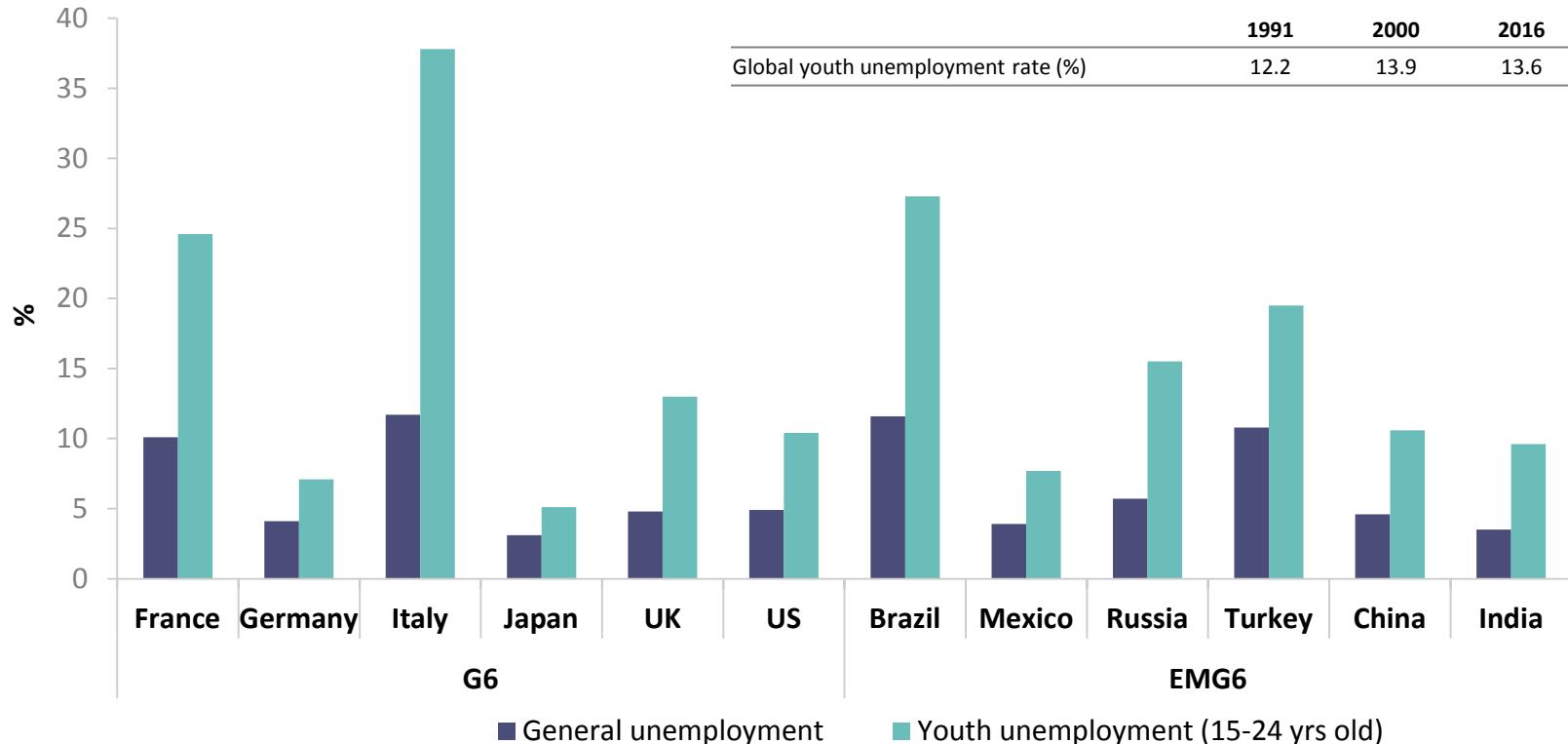
The **young**: Long on human capital & short on assets  
The **old**: Long on assets & short on human capital

Monetary policy impact is different based on **relative fractions of young & old**

### Credit Restrictions

The more people in the latter parts of their working lives and in retirement and the fewer the young workers — the less important are credit constraints

# Rising Youth Unemployment



Source: ILO, World Bank, SSGA Demographics

# Sectors Demographically Advantaged

Changing consumers and workers in a global and technologically advancing world. Not just people numbers, but groups and behaviours impact these sectors.

**INFRASTRUCTURE**

**NATURAL RESOURCES**

**LEISURE & LUXURY**

**EMERGING MARKETS**

**PHARMA & BIOTECH**

**FINANCIAL SERVICES**

# Demographics & Asset Pricing Fundamentals

Research has shown demographics to affect the following which are fundamentals of asset prices.

- GDP growth
- Inflation
- Sovereign Spreads
- Sovereign Ratings
- Long-term interest rates
- Equity premia
- Credit spreads
- Real Estate

Therefore it is essential to understand the dynamics of both behaviour and fundamentals in asset allocation.

# Pension Fund Asset Allocation Trends

|             | 2001         |           |          |           | 2016         |           |          |           |
|-------------|--------------|-----------|----------|-----------|--------------|-----------|----------|-----------|
|             | Equities (%) | Bonds (%) | Cash (%) | Other (%) | Equities (%) | Bonds (%) | Cash (%) | Other (%) |
| Australia   | 62           | 19        | 5        | 14        | 49           | 14        | 16       | 21        |
| Canada      | 62           | 26        | 2        | 10        | 46           | 33        | 1        | 20        |
| Japan       | 52           | 46        | 0        | 2         | 28           | 59        | 4        | 10        |
| Netherlands | 44           | 44        | 11       | 1         | 32           | 54        | 0        | 14        |
| Switzerland | 36           | 35        | 20       | 9         | 30           | 37        | 5        | 28        |
| UK          | 67           | 18        | 5        | 10        | 47           | 36        | 1        | 16        |
| US          | 65           | 28        | 2        | 5         | 49           | 22        | 2        | 27        |

Source: Willis Towers Watson (2017)

# Development, Governance, Corruption & Gender Balance Indicators

| Countries    | Human Development Index Score (%) | Human Development Index Rank | Gender Gap Index Score (%) | Gender Gap Index Rank | Corruption Perception Index Score | Corruption Perception Index Rank | Sustainability | Percentile Rank |
|--------------|-----------------------------------|------------------------------|----------------------------|-----------------------|-----------------------------------|----------------------------------|----------------|-----------------|
| Norway       | 94.9                              | 1                            | 83.0                       | 2                     | 85                                | 6                                | 1.17           | 91.4            |
| Switzerland  | 93.9                              | 2                            | 75.5                       | 21                    | 86                                | 5                                | 1.32           | 95.7            |
| Germany      | 92.6                              | 4                            | 77.8                       | 12                    | 81                                | 10                               | 0.76           | 71.0            |
| Netherlands  | 92.4                              | 7                            | 73.7                       | 32                    | 83                                | 8                                | 0.89           | 77.6            |
| Iceland      | 92.1                              | 9                            | 87.8                       | 1                     | 78                                | 14                               | 1.33           | 96.2            |
| US           | 92.0                              | 10                           | 71.8                       | 49                    | 74                                | 18                               | 0.35           | 58.6            |
| Canada       | 92.0                              | 10                           | 76.9                       | 16                    | 82                                | 9                                | 1.24           | 93.3            |
| Sweden       | 91.3                              | 14                           | 81.6                       | 5                     | 88                                | 4                                | 0.98           | 82.4            |
| UK           | 91.0                              | 16                           | 77.0                       | 15                    | 81                                | 10                               | 0.38           | 59.0            |
| Japan        | 90.3                              | 17                           | 65.7                       | 114                   | 72                                | 20                               | 1.01           | 86.2            |
| Israel       | 89.9                              | 19                           | 72.1                       | 44                    | 64                                | 28                               | -0.83          | 18.6            |
| France       | 89.7                              | 21                           | 77.8                       | 11                    | 69                                | 23                               | -0.06          | 44.3            |
| Finland      | 89.5                              | 23                           | 82.3                       | 3                     | 89                                | 3                                | 0.96           | 81.0            |
| Italy        | 88.7                              | 26                           | 69.2                       | 82                    | 47                                | 60                               | 0.35           | 58.1            |
| Saudi Arabia | 84.7                              | 38                           | 58.4                       | 138                   | 46                                | 62                               | -0.50          | 28.6            |
| UAE          | 84.0                              | 42                           | 64.9                       | 120                   | 66                                | 24                               | 0.44           | 61.0            |
| Russia       | 80.4                              | 49                           | 69.6                       | 71                    | 29                                | 131                              | -0.89          | 16.7            |
| Kuwait       | 80.0                              | 51                           | 62.8                       | 129                   | 41                                | 75                               | -0.15          | 41.4            |
| Oman         | 79.6                              | 52                           | N/A                        | N/A                   | 45                                | 64                               | 0.80           | 71.9            |
| Iran         | 77.4                              | 69                           | 58.3                       | 140                   | 29                                | 131                              | -0.74          | 20.5            |
| Turkey       | 76.7                              | 71                           | 62.5                       | 131                   | 41                                | 75                               | -2.00          | 5.7             |
| Mexico       | 76.2                              | 77                           | 69.2                       | 81                    | 30                                | 123                              | -0.77          | 20.0            |
| Brazil       | 75.4                              | 79                           | 68.4                       | 90                    | 40                                | 79                               | -0.45          | 30.0            |
| China        | 73.8                              | 90                           | 67.4                       | 100                   | 40                                | 79                               | -0.52          | 27.1            |
| India        | 62.4                              | 131                          | 66.9                       | 108                   | 40                                | 79                               | -0.95          | 14.3            |

Source: WB, WEF, UN, TI, SSGA Demographics

# Conclusions

**Understanding of demographics, behaviour, market and institutional evolution will be key.**

Strategic asset allocation & ALM must holistically consider the **drivers of inflation risk, interest rate risk, longevity risk and market risk.**

**Demographics affects investment fundamentals** and therefore must be factored into investment analysis. **Changing behaviour of consumers and workers** is rendering many old models invalid

In Middle East countries, **structural policy changes** towards education, labour, health and pensions need to be coordinated to generate higher sustainable and equitable growth.

**Open balanced economy with better developed financial markets** will enhance their global position.

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# Biography



## Amlan Roy, PhD

Dr. Amlan Roy is the Global Chief Retirement Strategist and Senior Managing Director at SSGA since April 2017. He is an experienced Global Macro Researcher specializing in Demographics & Pensions related to Economics, Investments and Public Policy. He highlights structural issues related to gender disparity, youth unemployment, system risks due to policy interactions with ALM & SAA. He is a Senior Research Associate at LSE and Guest Finance Professor at LBS.

Prior to joining SSGA, he was Head of Global Demographics & Pensions Research and Managing Director at Credit Suisse having joined there in 1998. At Credit Suisse, Amlan was a client facing Researcher presenting to clients in 25+ countries and speaking at 60+ global conferences/events. In a prior role he developed global risk and asset allocation models serving as an international expert on Financial System Architecture.

His big-picture macro strategic research in Global Demographics & Pensions is used by policy makers and investors and draws on the fields of Macroeconomics, Portfolio Theory, Behavioral Economics, Statistics, Derivatives and Econometrics.

Prior to joining Credit Suisse, he spent over a decade in academia with a distinguished teaching career in the US and the UK. He was UK ESRC Research Fellow, Ponders Fellow, a Boston University Doctoral Scholar and a Government of India National Scholar. Amlan has a PhD and an MA in Financial Economics from the University of Iowa, an MBA from Indian Institute of Management Ahmedabad and a BA Honours in Economics from St. Stephen's College, University of Delhi.

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