

[www.allianzglobalinvestors.com](http://www.allianzglobalinvestors.com)

Allianz Global Investors AG  
International Pensions  
Seidlstr. 24-24a  
80335 Munich, Germany

No. 3|2011

International Pension Papers

# Pensions in Turkey – A Race against Informality and Low Retirement Ages

**Allianz** 

Global Investors

# Contents

Introduction .....	3
Key Findings .....	4
Still Favorable Demographics .....	5
Turkey's Workforce Challenge .....	6
Old-age Provisioning .....	8
Pre-1999: opaque and generous .....	8
First wave reforms: 1999 to 2001 .....	10
Second wave reforms: 2006 to 2008 .....	11
Social assistance .....	12
Outlook .....	14
Summary .....	16
References .....	17
Recent Publications .....	18

# Introduction

Though geographically situated with one foot in Europe, Turkey's retirement landscape is facing considerably different challenges compared to its western European counterparts – both economically and culturally. Economically, Turkey is still considered to be an emerging economy, with traditional agriculture one of its principal employment sectors. Culturally, there continues to be a strong emphasis on the family as a social and financial support network.

Despite still favorable demographics compared to other OECD countries, Turkey's industrial evolution is beginning to put a strain on its social security system. Like other emerging economies, Turkey is confronted with the problematics inherent in devising a comprehensive and sustainable, formal old-age provisioning system.

This report describes the condition of the Turkish pension system at the onset of the more or less global wave of pension reforms that took place in the 1990s, and analyzes how Turkey has dealt with the very unique challenges it faces in restructuring its social security system to achieve future sustainability.

# Key Findings

- Compared to other OECD countries, Turkish demographics are still quite favorable. Even so, its old-age dependency ratio is projected to more than triple within the next 40 years.
- The main risk to old-age provisioning in Turkey is a large informal sector that is able to circumvent making contributions to the social security system. The success of Turkey's pension reforms will hinge on the government's ability to address this problem.
- Reform measures, such as increasing the retirement age and lowering the accrual rate, are almost exclusively restricted to people just entering the workforce. The extent to which the implicit return on the state pension system decreases across birth cohorts is evidence of the degree to which the younger generation is carrying the financial burden.
- Despite reforms, replacement rates on the first pension pillar are expected to remain high, in which case voluntary participation in occupational and private pensions will likely remain low.
- Compared to other OECD countries, pension reforms in Turkey have not adequately addressed means-tested and minimum pension benefits so that poverty will continue to be an issue.

# Still Favorable Demographics

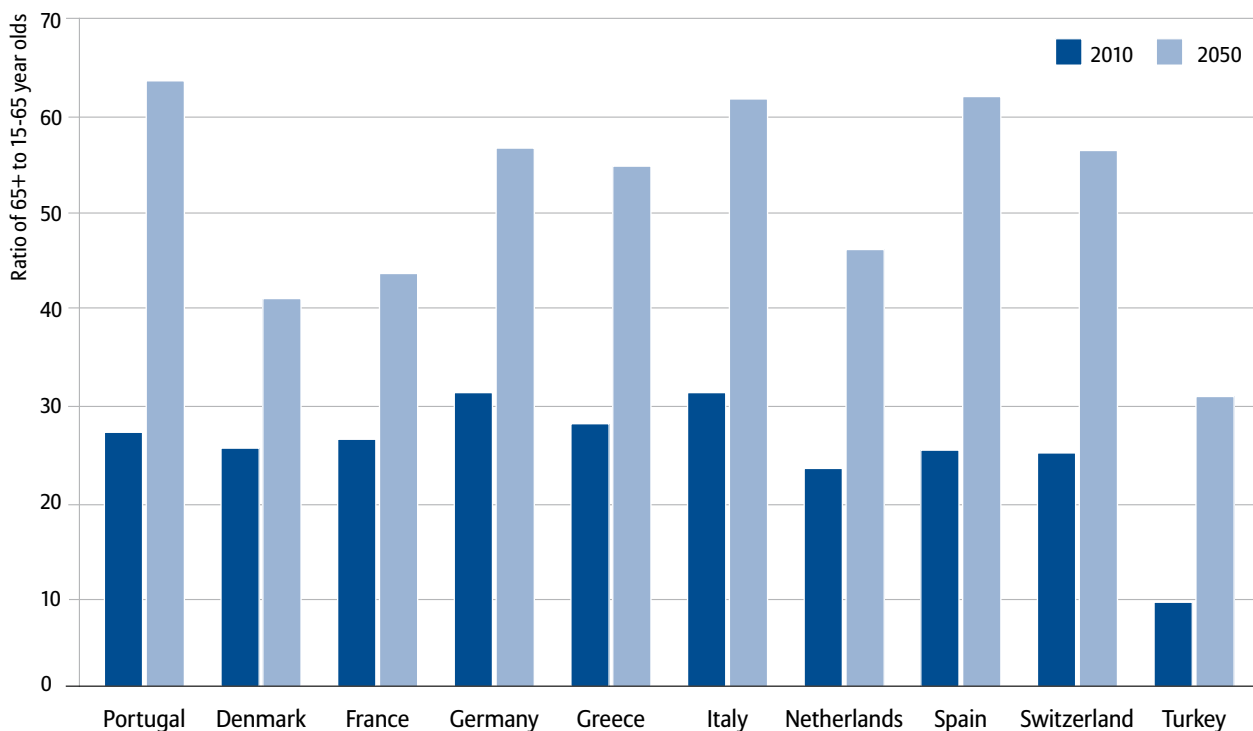
Turkey's still favorable demographics as compared to other OECD countries are the result of a comparatively high fertility rate and low average life expectancy. Currently, the average fertility rate in the OECD is about 1.7; in Turkey it is above 2 (2.1).<sup>1</sup> In contrast, the average life expectancy at birth in Turkey (73.4) is substantially below the OECD average (79.1).<sup>2</sup> Though the old-age dependency ratio in Turkey is, and will continue to be, well below that of other western European countries (see Figure 1), it is increasing at an accelerated pace. Within the next 40 years, the old-age dependency ratio in Turkey is expected to more than triple (a factor of 3.5) and the impact of this

trend should not be underestimated. To put it into perspective, Spain and Portugal – where old-age dependency ratios are projected to increase by a factor of about 2.5 over the same time period – rank far behind Turkey.

<sup>1</sup> Note that developing countries generally have higher fertility rates; however, this is expected to decrease in the future.

<sup>2</sup> OECD, 2010: Factbook 2010. Economic, Environmental and Social Statistics

**Figure 1:** Old-age dependency ratio in selected western European countries and Turkey



Source: UN World Population Prospects – 2010 Revision

# Turkey's Workforce Challenge

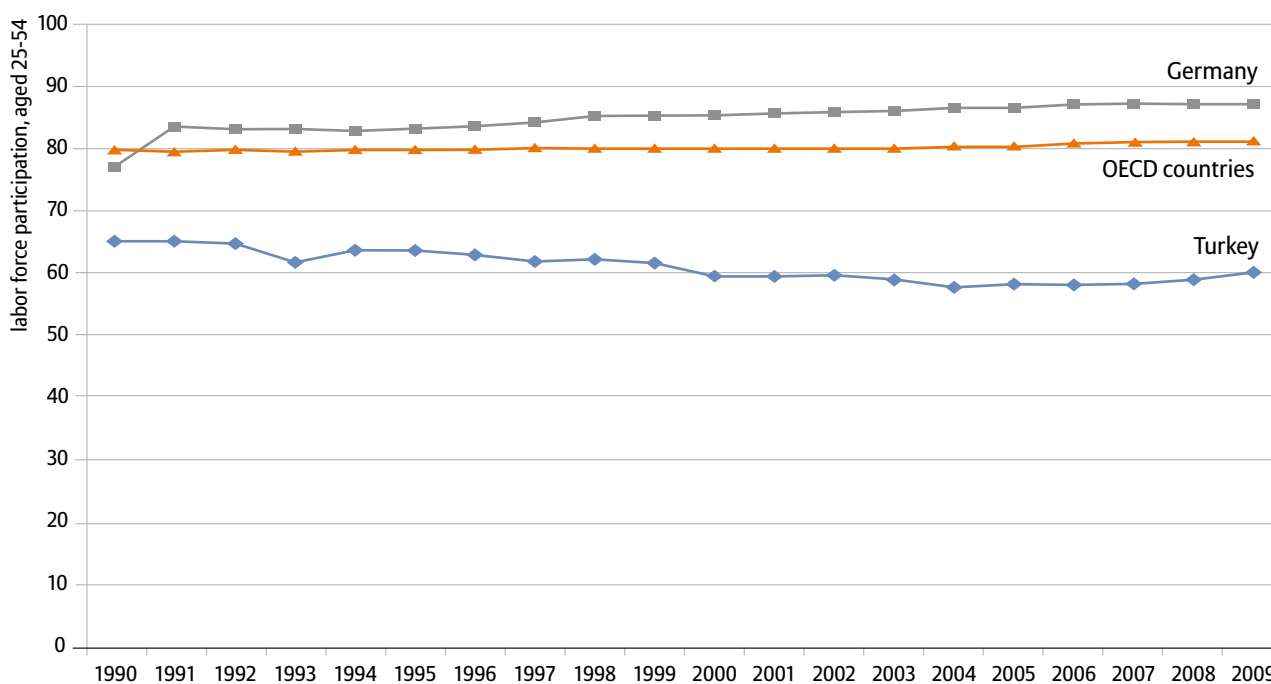
The agricultural industry is by far Turkey's largest employer (approximately 26% in 2007) and one of its most important industries in terms of GDP (approximately 9% in 2010).<sup>3</sup> However, it also has the largest informal workforce (about 85% in 2006). This large, off-the-books workforce is having a substantial impact on Turkey's tax and social security base so that, combined with the informal workforce of other industries, Turkey's informal economy poses a great risk to old-age provisioning. As Figure 2 shows, the official Turkish workforce aged 25 to 54 is the lowest of all OECD countries by far. In the late 1990s, when the first wave of reforms was introduced to address the sustainability of its retirement system, the informality rate in Turkey was around 50%.<sup>4</sup>

The following causes were identified:

- a) The perception of a high tax burden.<sup>5</sup>
- b) One of the strictest labor laws in the OECD. As a result, Turkey's official workforce is extremely expensive, creating an incentive for companies to look for ways to circumvent official registration.
- c) Generous pension benefits distributed at a relatively young age. As the OECD explains, populist measures taken around 1990 led to a substantial reduction in the pension eligibility age – officially to decrease unemployment. However, this has resulted in an informal sector that is highest among people in their late 40s and above.

<sup>3</sup> European Commission, 2010: Agriculture and Rural development. Turkey: Agriculture and Enlargement  
<sup>4</sup> World Bank, 2010: Turkey. Country Economic Memorandum: Informality. Causes, Consequences, Policies  
<sup>5</sup> In January 2008, labor taxes were reduced from 42% to 38% (World Bank, 2010).

**Figure 2:** Trends in labor-force participation of the working-age population in selected OECD countries



Note: Figure 2 plots the average official work-force participation of 25- to 54-year-olds from 1990 to 2009 in Turkey, Germany and across the whole OECD.

Source: OECD.Stat

d) A weak institutional structure and ineffective bureaucracy. In a World Bank evaluation, Turkey scored low on all governance indicators – in some cases below 50% of what is achievable and, in others, just above the 50% threshold.<sup>6</sup>

Compared to other countries with a similar social safety net and tax code, Turkey distinguished itself in this last point. In fact, the informality rate in the agricultural industry – a sector noted for its undocumented processes – was particularly high (around 90% in the early 2000s).

<sup>6</sup> "Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them."  
<http://info.worldbank.org/governance/wgi/index.asp>



# Old-age Provisioning

By the end of the 1990s, Turkey's retirement system was under extreme duress – not as a result of worsening demographics, as was the case in most western European countries, but due to the size of its informal economy. With a combination of low employee contributions and a very costly system, it was clear that Turkey's retirement system would not be sustainable over the long term. The outlook becomes even worse when factoring in the more than threefold increase in the old-age dependency ratio expected to take

place over the next 40 years. In 1990, public pension expenditures amounted to 2.4% of GDP. By 2010, it had tripled to 7.3% and, according to the OECD, is expected to further increase to 11.4% by 2050.<sup>7</sup> Acknowledging the looming crisis, the Turkish government initiated reforms in the late 1990s aimed at regaining sustainability. In the following sections, we will take a look at the status quo of the pension system in the 1990s and assess the subsequent pension reforms introduced from 1999 to 2001 and 2006 to 2008.

**7** OECD, 2011: *Pensions at a Glance. Retirement Income Systems in the OECD and G20 Countries*  
**8** The financial service sector, armed forces and miners were excluded from this first pillar in favor of mandatory occupational pensions. However, the financial service sector will be gradually transferred to the National Social Security System. The latter two will retain their own mandatory occupational pensions.  
**9** The OECD estimates that about 50% of working males aged 50 to 59 worked informally in 2005 (Brook and Whitehouse, 2006).

## Pre-1999: opaque and generous

Before 1999, the Turkish pension system was organized into three autonomous institutions:

- the Sosyal Sigortalar Kurumu (SSK), for private and public employees;
- the Bağ-Kur (BK), for the self-employed and agricultural workers; and
- the Emekli Sandığı (ES), for civil servants.<sup>8</sup>

Each of these three institutions was guided by its own set of parameters with respect to the minimum number of contribution days, accrual rate, calculation of benefits, occupational indexation and retirement period, which made Turkey's pension system extremely complex and difficult to decipher.

To compound the problem, public finances were burdened by relatively generous retirement benefits distributed at an unusually young age. Generous measures implemented

in the early 1990s made it possible for male employees to begin collecting pension benefits as early as age 43 (age 38 for women). This burden on social security was exacerbated by a system that did not make actuarial corrections to differing retirement entry ages. With retirement income based solely on the worker's last pay slip, even more incentive was generated to take early retirement. In many cases, workers simply waited for a promotion and its related pay raise before "officially" retiring (*see Table 1 for more details on the Turkish pension system*). In reality, many of these retirees continued to work off the books, which was seen as a win-win for employer and employee alike: both were able to avoid paying social security and taxes, and "retirees" were able to collect a relatively high total income.<sup>9</sup> At that time, there was neither a second occupational pillar nor a third private pillar. The second still does not exist today.

**Table 1:** Turkey's pension system in transition

Parameter	Prior to 1999	1999/2001 reforms	2006/2008 reforms
<b>Contribution rate</b>	20% (SSK, BK) 36% (ES)		9% (employee) + 11% (employer) Currently 5% of the 11% is subsidized by the state
<b>Accrual rate</b>	n/a	<ul style="list-style-type: none"> <li>The first 3600 days: 3.5%</li> <li>The next 5400 days: 2%</li> <li>After 9000 days: 1.5%*</li> </ul>	Flat rate: 2%
<b>Valorization rate</b>	n/a	$\Delta\text{GDP} + \text{CPI}^*$	$1+30\% \Delta\text{GDP} + \text{CPI}$
<b>Conditions for entering retirement</b>	<ul style="list-style-type: none"> <li>Age: 43 men (38 women)</li> <li>Years registered with SSI: 25 men (20 women)</li> <li>Contribution days: 5000</li> <li>OR, respectively: 55 (50); 0; 5000</li> </ul>	<ul style="list-style-type: none"> <li>Age: 60 men (58 women)</li> <li>Years registered with SSI: n/a</li> <li>Contribution days: 7000</li> <li>OR, respectively: 60 (58); 25 (20); 4500**</li> </ul>	<ul style="list-style-type: none"> <li>Age: 65 men and women</li> <li>Years registered with SSI: n/a</li> <li>Contribution days: 7200**</li> <li>OR, respectively: 65; 25; 5400**</li> </ul>
<b>Pensionable base</b>	Last year or last 5-10 years of income	Average lifetime earnings	Average lifetime earnings
<b>Indexation rate</b>	Discretionary	CPI	CPI

Notes:  $\Delta\text{GDP}$  refers to the GDP growth rate. CPI refers to the Consumer Price Index. SSI refers to the Social Security Institution. Please also note that retirement entry conditions differ for specific groups of individuals, such as the self-employed, part-time employees and the disabled. \* differs for ES. \*\* differs for ES and BK

Sources: Brook and Whitehouse (2006), OECD (2009, 2011), Gürsoy (2009), ASISP (2009, 2010)

## First wave reforms: 1999 to 2001

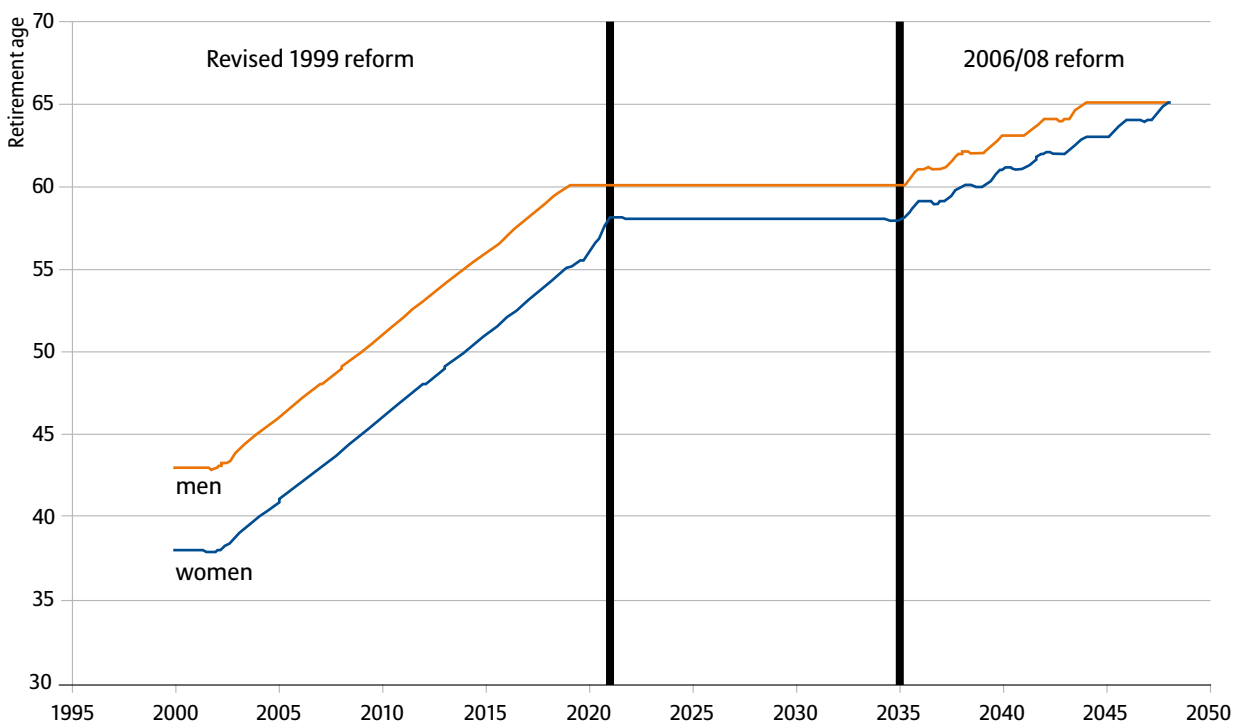
What seemed to be a retirement paradise was looking to become a sustainability nightmare as the government was faced with benefits too costly to sustain. In 1999, the Turkish government introduced legislation in an effort to reform the pension system. One initiative was to gradually increase the legal retirement age to 60 for men and 58 for women over an eight-year period ending in 2009. Objections by the Constitutional Court, however, resulted in an overall expansion of the timeframe so that benchmarks were pushed forward to 2021 (see Figure 3).

A second initiative was to establish a matrix between employee contributions and benefit entitlements. Though well meant, this reform backfired and led to an even more generous pension system. The OECD estimates that the net replacement rate for an average earner receiving a pension from the SSK actually increased from around 120% to some 140%.<sup>10</sup>

**10** Brook, A. and Whitehouse, E., 2006: *The Turkish Pension System. Further Reforms to Help Solve the Informality Problem, OECD Social, employment and migration working papers 44*

The Private Pension Savings and Investment Act approved in October 2001 is another initiative introduced during this first wave of pension reforms. The objective of the Private Pension Savings and Investment Act

**Figure 3:** Increasing retirement ages for men and women in Turkey



Note: Figure 3 plots the increase in the legal retirement age from 1999 to 2048 as mandated by legislation introduced in 1999 and 2006.

Source: TÜSIAD (2004): The Social Security Institution

## Private pension regulation

Anyone over 18 years of age may contribute to a private pension plan. Contributions are tax-deductible and savings accrue based on the rate of return of the pension fund(s) selected. Benefits can be taken out in the form of an annuity or lump sum as long as the participant is at least 56 years old and has contributed for at least ten years. Depending on how long contributions have been paid into the private pension fund, the applicable tax rate decreases from 15% to 3.75%.

11 ASISP, 2010: Annual National Report 2010. Pensions, Health and Long-Term Care – Turkey

was to introduce regulation for voluntary private schemes (defined contribution) in order to enhance the existing mandatory Pay-As-You-Go (PAYG) state pension scheme. The initiative has been mildly successful, with participation increasing from 1% of the working-age population ages 15 to 59 (some 421,000) between October 2003 –

when it was first introduced – and April 2005, to 4% of the working-age population (about 2 million<sup>11</sup>) by 2009. Though most investors are opting for group plans, individual plans are also possible. With the resulting fierce competition and low fees, Turkey is slowly beginning to catch on to private pension initiatives.

## Second wave reforms: 2006 to 2008

The net effect of the 1999 reforms was only a temporary dip in pension costs. Not having addressed the institutional setup, the informality problem continued to be a pressing issue. This led to a second wave of social security reforms in 2006.

Under the Social Security Institution Law, the three separate state pension institutions were brought together under one umbrella. This now fully integrated social security system offers advantages to all parties concerned. The government is better able to monitor and enforce registration; employees are no longer required to transfer their pension entitlements when changing employers; and, given the potential for greater labor mobility, employers could experience higher productivity.

A second component to the 2006 reforms was the enactment of the Social Security and General Health Insurance Law, which introduced regulations and parameters for the Social Security Institution (SSI), and universal health care. As in 1999, the Constitutional Court objected to some elements of this law and the resulting revisions were finally approved in October 2008. The government attacked the problem from every side. The contribution rate has now been set to 20% across the board. The conditions for entering retirement were tightened by raising both the number of contribution days and retirement age for men and women. As a result of this second wave of reforms, the normal retirement age for males will gradually increase from 60 in 2020, to 65 by 2048, and for females from

58 in 2020, to 65 by 2048 (see Figure 3). Benefit rates were decreased by lowering accrual rates as well as by setting the valorization rate against inflation instead of the productivity index, which is generally regarded as a reduction. The full extent of this new legislation, however, will only affect people entering the workforce.

Over the long term, these revisions should lead to a lower net replacement rate of around 100%.<sup>12</sup> Even though there is now more room for complementing private pensions, it is still very limited and grandfathering of the previously over-generous retirement scheme is slowing down the reform process.

## Social assistance

The Turkish pension system does more than provide retirement benefits. It also distributes benefits for disability/invalidity and nursing care, and to veterans, survivors and orphans. A minimum pension and a means-tested pension scheme have also been in place since 1976.

These programs may seem quite generous, however as Table 2 shows, (old-age) poverty continues to be a serious issue in Turkey, where almost every fifth person lives below the general poverty line (food and non-food). The reason for this is twofold. For one, only pensioners without families<sup>13</sup> are entitled to a means-tested pension, highlighting how current legislation continues to emphasize the role of the family as a social and financial support network. Secondly, means-tested benefits are quite meager. According to OECD estimates, the means-tested pension in Turkey in 2005 equated to about 6% of average earnings, which is substantially below the next

In an effort to address the informality problem, the Turkish government launched the “combating undeclared work” project in 2006. One of its initiatives was the introduction of a major marketing campaign aimed at raising public awareness. The project is also working to increase the flow of information between public institutions and banks to the SSI, with penalties fined for non-conformity. In addition, local administrations are getting more support from inspectors. Lastly, employer social security contributions have been reduced from 11% to 6%, with the outstanding 5% paid by the state. Though driven in part by the worldwide recession, this last measure should reduce employer incentive to hire informal workers.

<sup>12</sup> Brook, A. and Whitehouse, E., 2006: *The Turkish Pension System. Further Reforms to Help Solve the Informality Problem, OECD Social, employment and migration working papers 44*

<sup>13</sup> And who also have a low living standard and receive no other income.

least-generous, means-tested pension in Greece of 12%. Table 2 also compares means-tested benefits against the absolute poverty line and the general poverty line. In comparing the means-tested pension against the absolute and general poverty lines in Turkey, it becomes painfully obvious that the means-tested pension is barely enough to live on. Minimum pensions in Turkey are not much larger, once again highlighting the importance of family support in the Turkish retirement landscape.

**Table 2:** Pensions and poverty in Turkey

Year	Means-tested pension*	Absolute poverty line* (food only)	% of population below the absolute poverty line	General poverty line* (food + non-food)	% of population below the general poverty line
2005	64.5	84	0.87	216	20.5
2006	n/a	91	0.74	244	17.8
2007	n/a	105	0.48	283	17.8
2008	n/a	122	0.54	341	17.1
2009	86.4	127	0.48	365	18.1
2010	92.7	141	0.48	396	n/a

Notes: Table 2 compares the means-tested pension for one single individual against the two poverty lines. \*Amounts stated are YTL per month.

Sources: Brook and Whitehouse (2006), Turkstat Poverty Studies (2006-2010), ASISP (2009, 2010)

# Outlook

A crucial aspect to the success of the reforms described above, and therefore the sustainability of the pension system, is Turkey's ability to tackle the problem of the informal economy. If projects such as the "combating undeclared work" are successful in increasing participation of the male workforce by 10% and female workforce by 50% between 2010 and 2075, the reforms may reduce the pension system's deficit to about 1% of GDP by 2075. If not, the deficit can be expected to increase to some 5% of GDP.<sup>14</sup> It is questionable whether the measures already initiated will be sufficient and some are calling for "more ambitious reforms" to formalize the labor market.<sup>15</sup>

Another problem that still needs to be addressed is the question of old-age poverty. According to a Life Satisfaction Survey carried out in 2009, about 85% of all Turkish retirees believe that their pension income is too low.<sup>16</sup> There are several causes at the root of the abject benefits.

One cause is low means-tested benefits and the very meager minimum pensions distributed by two of the former autonomous social security institutions, the SSK and BK. For a two-person household, an agricultural worker can only expect to receive about 60% of the amount considered to be above the absolute poverty line (food only). As the OECD suggests, the government should rather accelerate pension reforms to ensure greater intergenerational fairness and use the money saved to increase means-tested benefits and minimum pensions.

Again, the informal economy is having a devastating impact on pension income. Informal employees do not accrue pension benefits, are usually paid lower wages and tend to be laid off much more frequently compared to their formal counterparts. A group particularly prone to old-age poverty is the agricultural worker, many of whom are excluded from the social security system either because they work informally or because they earn less than the minimum wage (55%<sup>17</sup>).

Given the problematics, successfully addressing the informality problem may also help reduce old-age poverty. To come to grips with this problem and provide a framework within which to accrue higher pension entitlements, the Turkish Industrialists' and Businessmen's Association has proposed a new three pillar pension framework called "Yeni Emeklilik Sistemi – YES." What they envisage is a basic state pension in the first pillar that would guarantee minimum subsistence. Contribution rates to this pillar would be substantially lower than the current ones. The second, the occupational pillar, would also be mandatory and would consist of individual accounts that allow for making individual investment decisions. The third, the private pillar, would remain as it is. However, in order for local capital markets to provide an adequate platform for funded pensions, Turkey – like many other developing countries – may still have to improve transparency.<sup>18,19</sup>

**14** More assumptions about demographic and macroeconomic trends are necessary for these estimates.

See Gürsory (2009) for more information.

**15** Verbeken, D., 2007: The pension reform challenge in Turkey, *ECFIN Country Focus Turkey* 4 (3)

**16** ASISP, 2010: Annual National Report 2010: Pensions, Health and Long-Term Care – Turkey

**17** ASISP, 2009: Annual National Report 2009: Pensions, Health and Long-Term Care – Turkey

**18** Asilbay, N.T., 2006: The nature of the Turkish pension system problems. Should Turkey reform its pension system?

**19** Queisser, M., 1999: Towards more individual choice in social protection, *Social security, the family and the individual: A new sharing of responsibilities*

Current Turkish retirees are relying principally on PAYG benefits from the public pension system. Since private pensions are only just beginning to pick up, funded pension schemes are in short supply and Turkey's pension assets are low. Bearing in mind the persistently high replacement rates – even after the reforms – we foresee very little change in Turkey's pension assets. As a result of this slow and limited shift, Allianz Global Investors AG regards the Turkish pension system to still be under reform pressure and ranks it between Spain and Romania in terms of its sustainability.<sup>20</sup>

<sup>20</sup> See Allianz Global Investors, *Global Pension Atlas 2011, International Pension Papers* (forthcoming)



# Summary

Turkey's retirement crisis differs from those facing other western European and OECD countries. The root of its crisis is a large informal sector and low retirement age. Pension reforms aimed at generating sustainability began quite late and at a slower pace than those of other western European or OECD countries. It will therefore still be some time before their effects are felt and it remains to be seen whether one of the most critical impediments to success – the informality problem – is being tackled properly. Moreover, due to the persistently high replacement rates of public pensions, there will likely be little room for voluntary occupational and private pensions in the future.

# References

- Aktug, R.E., 2010: Public Pensions in Turkey. Reforming the System to Achieve Fiscal Balance
- Asilbay, N.T., 2006: The nature of the Turkish pension system problems. Should Turkey reform its pension system?
- Ayede, Y., 2008: Expected Social Security Wealth Simulations and Generational Fairness of the Turkish PAYG System
- ASISP, 2009: Annual National Report 2009. Pensions, Health and Long-Term Care – Turkey
- ASISP, 2010: Annual National Report 2010. Pensions, Health and Long-Term Care – Turkey
- Brook, A. and Whitehouse, E., 2006: The Turkish Pension System. Further Reforms to Help Solve the Informality Problem, *OECD Social, employment and migration working papers 44*
- Buğra, A. and Keyder, Ç., 2005: Poverty and Social Policy in Contemporary Turkey
- European Commission, 2010: Agriculture and Rural Development. Turkey: Agriculture and Enlargement
- Gürsory, K., 2009: The effects of latest parametric reform on financial sustainability and actuarial fairness for pay-as-you-go pension system in Turkey and some alternative reform options
- OECD, 2009: Pension Country Profile Turkey, *OECD Private Pensions Outlook 2008*
- OECD, 2009: Pensions at a Glance. Retirement Income Systems in OECD Countries
- OECD, 2010: Factbook 2010. Economic, Environmental and Social Statistics
- OECD, 2011: Pensions at a Glance. Retirement Income Systems in OECD and G20 Countries
- TÜSİAD, 2004: Reforming the Turkish Pension System. Present Situation and Alternative Strategies, Executive Summary
- Queisser, M., 1999: Towards more individual choice in social protection. Social security, the family and the individual: A new sharing of responsibilities
- World Bank, 2010: Turkey. Country Economic Memorandum. Informality: Causes, Consequences, Policies

# Recent Publications

## International Pension Studies

Fiduciary Management: Meeting Pensions Challenges in Europe – Results of an Expert Survey	2011
Putting the Retirement Pieces Together: Strategies of the affluent 50+ Generation in the United States	2011
Better Prepared for Retirement – Europe or the United States?	2010
The Global Crunch and its Long-term Impact on US Retirement Investing	2010
On the Rise Again – Global Retirement Assets in 2020	2010
Real Retirement Income: The Impact of Inflation	2010
Doing Good by Investing Well? Pension Funds and Socially Responsible Investment: Results of an Expert Survey	2010
Pension Sustainability Index 2009	2009
Defining the Direction of Defined Contribution in Europe: Results of an Expert Survey	2009
Retirement at Risk II – Challenges for US Baby Boomers Approaching Retirement	2009
How the Financial Crisis Affects Pension Funds: What Analysts Expect	2009
Private Household Financial Assets: The Golden Days of the Past are a Long Way Off	2009
Investment Regulations and Defined Contribution Pensions	2009
Retirement at Risk: The US Pension System in Transition	2009
Funded Pensions in Western Europe 2008	2009

## International Pension Issues

UK – on course for an innovative pension system	2011
Focus: Germany – Financial assets continued to rise in 2010	2011
Savings in Asia – The Macro and the Micro	2010
Pension Sustainability Index – New Zealand included	2010
Demographics in Focus II – Ageing	2010
Financial Assets of Households in Germany on the Rise Again	2010
Demographics in focus I – Population Growth	2009
Pension Funds and the Financial Crisis	2009
Western Europe: Fiscal Pressures – Ageing Costs Still on the Horizon	2009
United States – Severe setback in financial and retirement assets	2009
Germany – Fall in financial assets of private households	2009

<http://publications.allianzgi.com>

**Masthead**

**Publisher:** Allianz Global Investors AG, International Pensions, Seidlstr. 24-24a, 80335 Munich, Germany  
International.Pensions@allianzgi.com | <http://www.allianzglobalinvestors.com>

**Author:** Dr. Kathrin Nies, Economist, Allianz Global Investors AG, [kathrin.nies@allianzgi.com](mailto:kathrin.nies@allianzgi.com) | **Editor:** Marilee Williams

**Layout:** volk:art51 GmbH, Munich | **Closing Date:** March 22, 2011

**Important Information**

This paper has been prepared by *Allianz Global Investors AG*. It is being furnished to the recipients for general information purposes only. Nothing in it should be interpreted as an offer or recommendation of any service or financial product.

This paper is not intended for distribution in any country or jurisdiction where to do so would be contrary to law or which would subject *Allianz Global Investors AG* or its affiliates to any registration or license requirements in these jurisdictions.

This document is issued in the United States by Allianz Global Investors Distributors LLC (AGID), a U.S.-registered broker-dealer located at 1633 Broadway, New York, NY 10019.

This paper does not constitute investment, legal, tax, accounting or any other advice. Recipients should consult with their own financial, legal, tax and other advisors as needed. Keep in mind that investing in the markets involves risk, including the loss of principal. Asset allocation and diversification do not assure a profit or protect against loss in declining markets. Past performance should not be understood as an indicator for future performance.

This paper is based on sources believed to be accurate and reliable. However, *Allianz Global Investors AG* does not warrant the accuracy, reliability or completeness of any information contained in the paper. Any views expressed reflect the current views of the authors, which are subject to change without notice and which do not necessarily correspond to the views of *Allianz Global Investors AG* or its affiliates.

This paper is current as of March 22, 2011. Recipients should not assume that the information contained in this paper is current as of any other date.

The entire content of this paper is protected in all countries of the world by copyright or similar IP-protection with all rights reserved to *Allianz Global Investors AG* and/or the authors or right holders of this paper, respectively, as applicable in each case. The paper may not be reproduced, distributed or published, either in whole or in part, without the prior written permission of *Allianz Global Investors AG* or the respective right holder, as applicable.