Appendix I: Methodology of the Allianz Pension Index (API)

The Allianz Pension Index (API) consists of three pillars, which are differently weighted (see respective weightings in brackets)

- *Basic Conditions* *(20%)*
- *Sustainability* *(40%)*
- *Adequacy* *(40%)*

These three pillars are based on five categories and eleven sub-categories taking into account in total 40 parameters. Each parameter value is rated on a scale of 1 to 7, with 1 being the best grade. The bands defining each parameter's grade are chosen in a way that the grading results of all markets are normal distributed. This implies a relative judgement. By adding up all weighted subtotals, the API assigns each market a grade between 1 and 7, thus providing a comprehensive view of the sustainability and adequacy of the pension system of a respective market compared to other markets.

The pillars in detail

The pillar Basic Conditions takes into account the living standards as well as the financial and demographic starting points which are two major exogenous factors determining the framework and effecting the need for further pension reforms:

- *The living standards (40%)* and
  The living standard is mainly determined by the overall prosperity level (50%), the access to health services (30%) and the level of progress (20%) of a society.
- *Finances and Demographics (60%)*
  The financial leeway (40%) and the demographic change (60%) determine the need for pension reforms.

General government gross debt and nominal GDP data are extracted from the IMF World Economic Outlook database, source of the public spending for old age data is mainly the International Labor Organization supplemented with data from national statistical offices and public pension insurance providers and PricewaterhouseCoopers. All population data is derived from the UN World Population Prospects database and the main data source to determine the living standards are the World Bank World Development Indicators.

The pillar Sustainability assesses, if there are built-in mechanisms that cushion the pension system against the impacts of demographic change, based on the categories

- *Preconditions (60%)*
  The category Preconditions is split into the sub-categories Retirement age (80%), in order to assess if adopted increases of the retirement age are high enough to compensate for the expected improvements in further life expectancy, and Minimum contribution period (20%).
- *Finances (40%)*
  This category consists of the sub-categories Financing (70%) and Pension Formula (30%).

Data sources are the European Commission, the OECD, Axco Life and Benefits reports, and the respective national social security administrations and providers.

The pillar *Adequacy* is based on two categories *First Pillar* and *Other Pension* income, which are also split up in further sub-categories:

- *First Pillar (50%)*
  This category takes into account the Coverage (70%) and the Benefit level (30%) of the pension system.
- *Other pension income (50%)*
  This category is based on the sub-categories Second Pillar (20%), Financial Assets (70%) and Gainful Employment (10%).

The indicator is based on publicly available information of national social security administrations, ministries of finance and ministries of social affairs as well as on including publications of the European Commission, OECD, ILO, UN, Axco, and World Bank.