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Financing social protection

Cyprus

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**ESPN Thematic Report on
Financing social protection**

Cyprus

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Summary

The social protection system of Cyprus consists of a comprehensive range of contributory and non-contributory benefits. The social protection system is constantly changing and adapting, and its architecture combines elements from a variety of welfare models. About 19.1% of GDP was devoted to social protection in 2016. This is well below the EU-28 level. And yet, the trend is upward: between 2005 and 2016, the share of expenditure on social protection in GDP increased by 2.5 percentage points (pp).

The increase in the relative and real level of social protection spending is mostly driven by pensions, as a result of population ageing and the gradual 'maturation' of the pension system (an increasing number of pensioners with richer contribution records have entered the pension system in the last decade). As a result, the share of old-age benefits in total spending has increased – and will most probably increase further over the next decades due to demographic factors. On the other hand, the share of healthcare spending in total spending has decreased, bucking European trends. The underfunding of the healthcare system is a persistent problem in Cyprus, mostly due to procrastination in reforming the system. There has also been an increase in the share of means-tested benefits, which may be attributable to the adaptation of the welfare state to recent economic swings, as well as to the political attractiveness of targeted instruments.

In terms of financing structure, social protection in Cyprus has many similarities to what pertains in the rest of the EU; but there are also differences. The system is financed 50% by government revenues and 45.3% by social contributions; half of those social contributions are paid by employers, and the other half paid by employees and self-employed persons.

The share of general government revenues in total financing increased by 4 pp between 2005 and 2015, and the share of the category 'other receipts' decreased. Meanwhile more weight is gradually being placed on financing the system through social contributions. This latter trend is in contrast to the EU-28, where the share of contributions in total financing is declining in the majority of countries. Interestingly, a number of ongoing and planned reforms point to further increases in the share of social contributions in the total financing mix. Specifically, social insurance contributions (financing old-age benefits and other contributory benefits) have increased in 2019, and further increases are planned over the next decades. The new National Healthcare System, which is expected to be fully operational by 2020, will be financed by contributions levied on labour earnings, income from self-employment and pensions (the state will contribute, too).

Breaking general government revenues down into their major constituent parts, it may be observed not only that the share of social contributions and general government revenues has increased, but also that the increases in government revenues have come mostly from: (i) increased VAT tax revenues and (ii) corporate income tax revenues. Personal income tax revenues remained relatively stable during the period under investigation. This financing mix presents some important advantages (lower risk of evasion, low collection and administrative costs and less distortion of work incentives). However, it must also be stressed that the increased reliance on social contributions in recent years (which is expected to continue in the future) makes the financing of the social protection system vulnerable to demographic ageing. This is a threat that should be addressed effectively in the near future. Moreover, policy makers should turn the spotlight on labour market conditions and institutions in Cyprus, and design appropriate reforms to mitigate the impact of increasing social contributions on labour costs.

1 Current levels and past changes in financing social protection

1.1 The social protection system in Cyprus

The social protection system in Cyprus consists of a comprehensive array of cash and non-cash, contributory and non-contributory benefits. About one fifth of GDP goes on social protection policies. The largest part of this is channelled to pensions and contributory benefits, while a smaller part goes on non-contributory (typically means-tested) benefits and services. In terms of institutional characteristics and orientation, the welfare system in Cyprus combines elements from a variety of welfare models,¹ without strictly adhering to any particular typology, while the regulatory framework is in a process of constant 'fine-tuning' in an attempt to move closer to European standards (Ioannou, 2008; Koutsampelas and Pashardes, 2017).

The backbone of the social protection system is the General Social Insurance Scheme (GSIS), which is regulated by the *Social Insurance Law of 2010* (and subsequent modifications) and is administered by the Ministry of Labour, Welfare and Social Insurance (MLWSI). The GSIS is funded by compulsory social insurance contributions paid by employees, the self-employed, voluntarily insured persons, employers and the state. Apart from old-age benefits (old-age, widow/widower, invalidity and disability pensions), the scheme offers access to several short-term benefits that provide income support for a variety of contingencies (e.g. unemployment, maternity, paternity, sickness). In addition to compulsory GSIS pensions, several professional groups also have access to supplementary retirement income through occupational schemes. The most important occupational scheme is the Government Employees Pension Scheme (GEPS). The GEPS provides occupational pensions to central government employees, teachers, academics, policy officers and personnel of the armed forces.² Employees in the semi-government sector and certain categories of the self-employed (lawyers, doctors, dentists) also have access to occupational schemes.

There is also a number of non-contributory cash benefits, covering several contingencies. The most important is the Guaranteed Minimum Income (GMI), which is regulated by the *GMI and Social Benefits Law of 2014* and is administered by the MLWSI. The GMI is a top-up benefit, ensuring that every citizen legally resident in Cyprus enjoys a minimum acceptable standard of living. GMI depends on family size, and also provides access to other cash and in-kind benefits, depending on a beneficiary's specific needs. Other important non-contributory cash benefits are: the child benefit, the single parent benefit, the student grant and various disability benefits covering persons with certified disabilities. Non-contributory benefits are typically means tested (apart from non-contributory disability benefits) and are financed through general taxation.

In-kind healthcare benefits are regulated by the *Government Medical Institutions and Services Laws of 1978 to 2013* and are administered by the Ministry of Health. Healthcare beneficiaries are entitled to a medical card, which provides access to free-of-charge healthcare services in public hospitals, which are mostly financed through general taxation. Registration in the scheme is voluntary – except for civil servants, who have to pay a compulsory contribution calculated on the base of their emoluments. However, this system is under reform. Introduced in June 2019, the new system is expected to be fully operational by 2020. It will cover all citizens and will be financed through contributions.

The social protection system has undergone significant reforms over the past decade, mostly motivated by three factors: 1) the economic crisis and the need to consolidate

¹ It has certain Beveridge-type features that are inherited from the British colonial era, but also shares certain elements with the typical Mediterranean welfare state, such as the active role of family in topping up inadequate statutory provisions, and political clientelism (Koutsampelas and Pashardes, 2017).

² The GEPS underwent drastic change in 2011-2012. Most importantly, as of 2011 participation in GEPS is closed to newcomers in the public sector.

public finances, 2) the projected ageing of the population (as reflected in the increasing old-age dependency ratio) and 3) the need to modernise the social protection system in line with EU standards and aspirations.

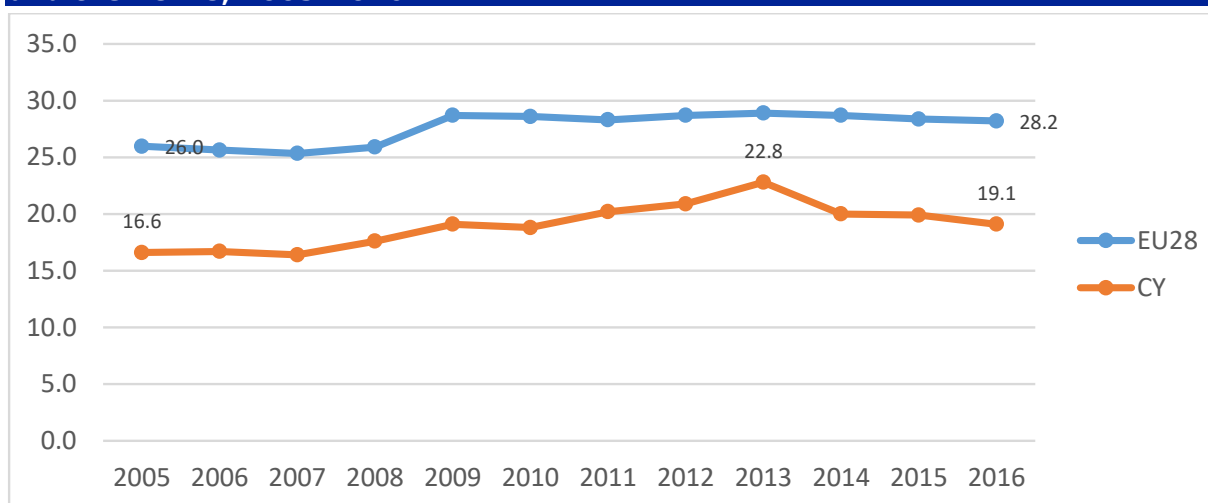
1.2 The level of social protection spending

Figure 1 shows the development of the share of GDP of gross expenditure on social protection in Cyprus and the EU-28 for the period 2005-2016. The data show that spending as a percentage of GDP followed an upward path until 2013 (when it peaked at 22.8% of GDP). Between 2013 and 2016, the share decreased by 3.7 pp to 19.1% of GDP in 2016.³ The curb in public spending (as will be discussed later) was mainly caused by the extensive pension reforms that took place in 2009-2013.⁴ Nevertheless, compared with 2005, expenditure on social protection as a share of GDP increased by 2.5 pp.

Compared to the EU-28, two main points emerge:

- The share of GDP devoted to social protection in Cyprus is consistently lower than in the EU-28. In 2016, the difference between Cyprus and the EU-28 average was 9.1 pp (19.1% vs 28.2%).
- Cyprus followed an upward trend in social spending similar to that observed in most European countries during the period of reference. In particular, social spending as a percentage of GDP increased by 2.5 pp, while the corresponding increase in the EU-28 was 2.2 pp in 2005-2016.

Figure 1: Gross expenditure on social protection as a percentage of GDP, Cyprus and the EU-28, 2005-2016



Source: Spasova and Ward (2019), Annex ESSPROS tables.

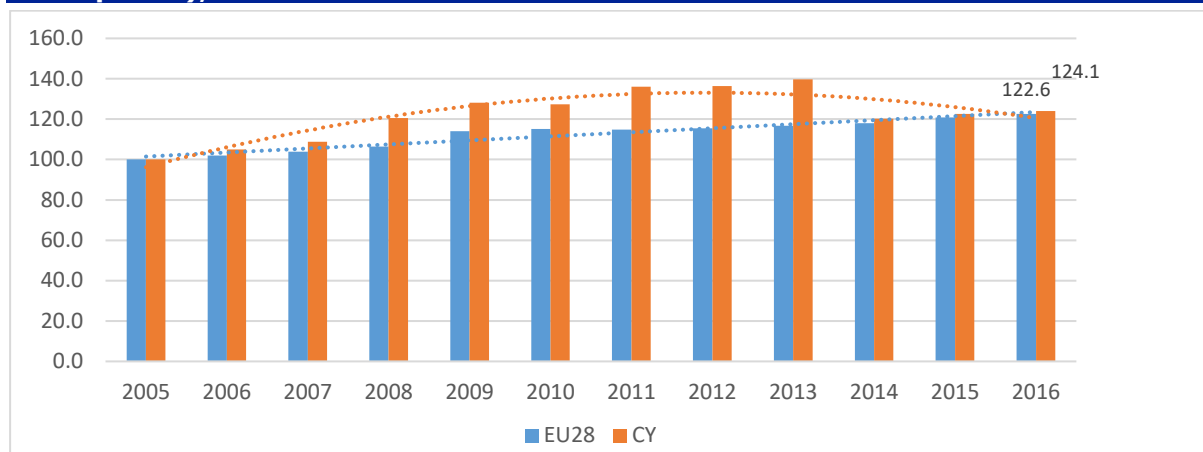
Figure 2 shows the gross expenditure on social spending in real terms (i.e. at 2005 constant prices) in Cyprus and the EU-28. The data show that spending on social protection in Cyprus increased by 24% between 2005 and 2016. The magnitude of this percentage change is similar to that observed in the EU-28 (22.6%). Yet, patterns differ. As the figure shows (see dotted line), in many European countries real expenditure exhibited a linear

³ It should be noted that total receipts exceeded gross expenditure during the pre-crisis era (for example, in 2005 total receipts were 20.1% of GDP; 3.5 pp above gross expenditure). In 2016, total receipts were 19.2%, just 0.1 pp above gross expenditure on social protection (Eurostat Online Database, Table: spr_rec_gdp, accessed on 18/03/2019).

⁴ During that period, the country's GDP plummeted as a result of the international recession and the collapse of the Cypriot financial sector. Figure A1 in the Appendix depicts GDP fluctuations during the period of reference. As can be seen from Figure A1, GDP fluctuations in Cyprus followed the general patterns observed in the EU, with the difference that the fluctuations in Cyprus were more intense.

increase over time, with only the rate of change slowing after 2010. In Cyprus, real expenditure increased very rapidly in 2005-2010 (i.e. the years before the global recession). However, after 2013, real expenditure decreased (the average change in 2010-2016 was -0.4%, while in the EU-28 it was +1.0%).

Figure 2: Gross expenditure on social protection in real terms (i.e. at constant 2005 prices), 2005-2016



Source: Spasova and Ward (2019), Annex ESSPROS tables.

Moving the focus from gross to net spending on social protection as a share of GDP does not change the overall picture. As Table 1 shows, in 2015 net expenditure on GDP amounted to 20.6% in Cyprus – again well below the EU-28 average of 26.1%. Cyprus is among those countries characterised by a small gap between gross and net total social expenditure: -1.2 pp vs -2.2 pp in the EU-28. Yet, as can be seen from the data, this gap increased between 2010 and 2015: from -0.5 pp in 2010 to -1.2 pp. This increase is not substantial; however, given that the tax system has remained relatively stable during this period, it might signify a change either in the level of benefits (e.g. an increase in the average pension might have pushed pensioners onto higher tax rates) or in the composition of benefits.

Table 1: Gross and net social expenditure, Cyprus and the EU-28, 2007-2015

	Gross expenditure			Net expenditure			Net minus gross (percentage point difference)		
	2007	2010	2015	2007	2010	2015	2007	2010	2015
EU-28	25.2	28.6	28.3	23.5	26.5	26.1	-1.7	-2.1	-2.2
Cyprus	16.4	19.9	21.8	16.3	19.5	20.6	-0.2	-0.5	-1.2

Source: Spasova and Ward (2019), Annex ESSPROS tables.

The general picture is that expenditure on social protection increased significantly in 2005-2016 in both real and relative terms. These increases were comparable to those observed in most other European countries. However, the upward trend in Cyprus was halted during the crisis as a result of the fiscal consolidation efforts of the government and the pension reforms, which aimed at securing the sustainability of the system in view of population ageing.

1.3 The role of pensions and healthcare

Figure 3 shows the breakdown of gross expenditure on social protection by function as a percentage of total expenditure, for Cyprus and the EU-28 during the period 2005-2016. The emphasis is on two main functions: healthcare and old-age pensions. As the data

demonstrate, almost 70% of total expenditure on social protection in Europe is directed to pensions and healthcare. Cyprus is no exception, although the relative importance of pensions (48.8%) is much higher than of healthcare (18.5%).

In the EU-28, the share of pensions in total expenditure increased by 1.5 pp between 2005 and 2015, reaching 40.1% in 2016. In Cyprus, this increase was more pronounced (8.7 pp), reaching 48.7% in 2016. It is noteworthy that the share of pensions grew significantly, despite the extensive reforms of the period 2009-2013 (a detailed list of the pension reforms is provided in the Appendix). One caveat in interpreting these data is that there is a time lag between the reforms and their actual impact on the public budget.⁵

The share of healthcare in total expenditure declined in the period 2005-2016, from 25.2% in 2005 to 18.5% in 2016. By contrast, in the EU-28 the share of healthcare expenditure in total expenditure increased from 28.7% in 2006 to 29.5% in 2016, most likely reflecting the effect of population ageing. The share of healthcare in total expenditure in Cyprus is the lowest in Europe, implying that the provision of public healthcare in Cyprus is underfunded.⁶ It is expected that the new healthcare reform, which is currently being implemented, will affect the level and mode of financing of the system.⁷

Figure 3 also shows the share of expenditure on other functions of social protection (e.g. disability, survivors, family, unemployment, housing and social exclusion), as a percentage of total expenditure. Overall, the evidence shows that the share of other expenditure remained relatively stable over the period 2005-2016, falling only slightly from 34.8% to 32.7%. Yet, some changes took place in regard to specific branches of social protection. The most important are: a) the sharp increase in the share of unemployment benefits during the recession years (from 0.1% in 2010 to 5.5% in 2016); and b) the reduction in the share of family benefits in total expenditure (from 11.8% in 2005 to 7.1% in 2016). The former change is due to the unprecedented increase in the unemployment rate from one of the lowest rates in the EU-28 in 2008 (3.7%) to one of the highest in 2014 (16.1%).⁸ Note also that unemployment assistance was not among the welfare schemes affected by fiscal consolidation. By contrast, the decrease in the share of family benefits, as well as housing benefits (whose share declined from 5.5% in 2010 to 1.9% in 2016), might be partly attributable to the tightening of the eligibility criteria for non-contributory benefits in an effort to curb public spending (Koutsampelas and Polycarpou, 2013). Finally, the change in spending on disability benefits was modest (from 3.8% in 2005 to 4.2% in 2016), while the share of survivors' benefits increased (from 6.4% in 2005 to 7.5% in 2016).

Overall, the evidence presented in the figures implies that the most important factor in explaining the changes in the level and composition of social protection expenditure in Cyprus is the pension system. In turn, changes in pension expenditure were driven by two forces: population ageing and the gradual 'maturation' of the pension system.

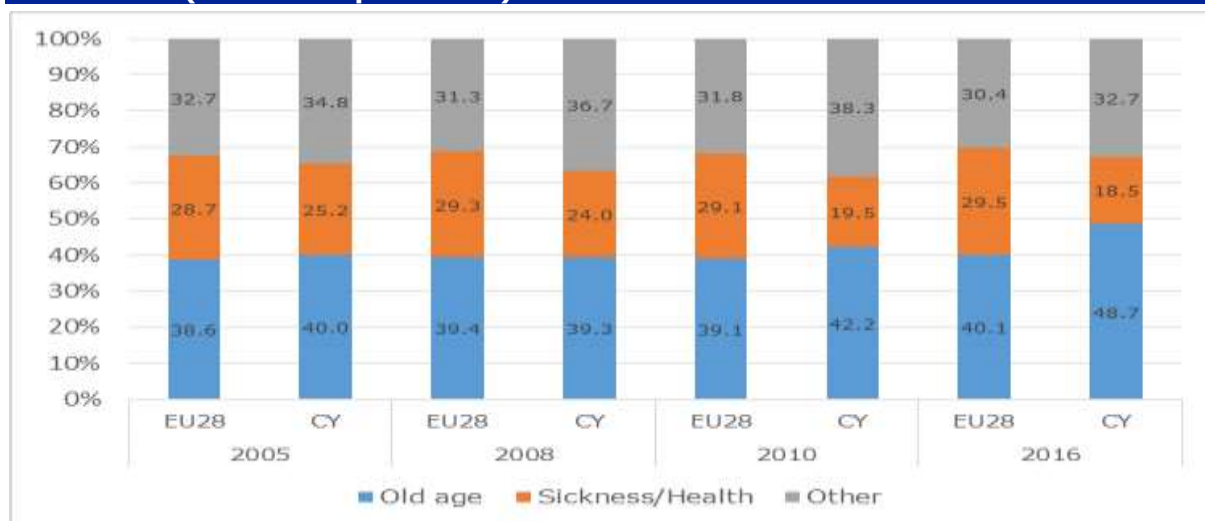
⁵ A characteristic example is the legislated linkage between statutory pensionable age and life expectancy.

⁶ The underfunding of the system and its resulting inefficiencies have been assessed in Theodorou et al. (2018).

⁷ In particular, as of 1 March 2019, contributions are required of employees, employers, the self-employed and pensioners. Contributions will increase to their full levels in March 2020. For further details, please refer to Section 2.4.2 of this report.

⁸ Eurostat Online Database, Code: tipsun20.

Figure 3: Breakdown of gross expenditure on social protection by function, 2005-2016 (% total expenditure)



Source: Spasova and Ward (2019), Annex ESSPROS tables.

1.3.1 The maturation of the pension system

The General Social Insurance Scheme (GSIS) was established in 1957 and provides compulsory insurance to every person employed in Cyprus, including all categories of the self-employed. In 1980, the system was reformed by complementing the existing flat-rate contribution and benefit scheme with an earnings-related insurance scheme. Thus, initially, pensioners at the top end of the age scale retired before they could make enough contributions to be entitled to a full pension. As the 1980 system gradually 'matured' over the decades, the replacement rates started gradually to increase, and the average level of the pension rose over time, as old pensioners were replaced by new pensioners with lengthier contribution records. According to an actuarial report by the Ministry of Labour, Welfare and Social Insurance (2011), the replacement ratios of the supplementary part of the pensions were projected to increase over time for all types of pension, and were expected to stabilise in 2020.⁹

Table 2 reports national data on the number of recipients of GSIS old-age pensions and the average amount of pension per year for the period 2007-2018. The evidence shows that there was an increase not only in the number of recipients (a rise of 48% between 2007 and 2018), but also in the average old-age pension (of 47% between 2007 and 2018). Similarly, the number of recipients of survivor pensions also increased by 9% and their average value by 38%.

⁹ Note that this study does not take into account reforms implemented after 2011; however, its main finding (i.e. increasing replacement rates) seems valid. The aggregate replacement ratio for pensions increased from 0.39 in 2011 to 0.43 in 2017 (Eurostat Online Database, Code: tespn070).

Table 2: Number of recipients and average old-age pension in Cyprus (GSIS), 2007-2018

Year	Number of recipients	Average amount of monthly old-age pension (in €)
2007	71,621	504.4
2008	74,642	537.6
2009	76,508	582.9
2010	80,261	616.6
2011	82,038	651.5
2012	88,453	679.0
2013	91,472	697.5
2014	95,747	707.1
2015	97,134	715.1
2016	100,305	722.8
2017	103,238	732.9
2018	105,648	740.6

Source: Social Insurance Services, MLWSI.

1.3.2 Population ageing

An important factor explaining the rise in old-age spending is the ageing of the population. Between 2005 and 2016, life expectancy at 65 years in Cyprus increased by 2.5 years, reaching 20.4 years in 2016 (note that life expectancy for women is higher); this figure is slightly above the EU-28 average (20.0 years). The old-age dependency ratio¹⁰ increased by 4.3 pp in the same period: in 2016, the old-age dependency ratio stood at 22.1%, significantly below the EU-28 average. On the other hand, employment among older workers (55-64) increased by 1.6 pp: in 2016, 52.2% of persons aged 55-64 were in employment (EU-28: 55.3%). This share will likely increase over the coming years as policy makers seek to prolong working life.¹¹

Table 3: Demographic indicators and employment rate among older persons (55-64), in CY and EU-28, 2016 and comparisons with 2005/2006

	CY		EU-28	
	2016	2005/2006-2016 change	2016	2005/2006-2016 change
Life expectancy at 65	20.4	+2.5 years	20.0	+1.7 years
Old-age dependency ratio (20-64) (%)	22.1	+4.3 pp	29.3	+4.3 pp
Employment rate (55-64) (%)	52.2	+1.6 pp	55.3	+13.1 pp

Note: The 2005-2016 change in the old-age dependency ratio was calculated using 2006 values.

Source: Eurostat. Code: tesem050.

¹⁰ That is the share of the population aged 65 and over as a percentage of the population aged 20-64.

¹¹ After 2010, the government legislated financial disincentives (actuarial reductions in old-age pensions) to discourage retirement before the age of 65, and financial incentives for prolonging working life until the age of 68 (postponement of pension entitlement comes with the benefit of an increased pension – 0.5% for each additional working month).

The phenomenon of population ageing is expected to continue. Table 4 shows the ratio between the projected number of persons aged 65 and over and the projected number of persons aged between 15 and 64. The value is expressed per 100 persons of working age (15-64). The old-age dependency ratio in Cyprus is projected to rise by 20.9 pp – from 21.2% in 2015 to 42.1% in 2050. The projected rise in old-age dependency is 21.5 pp in the EU-28.

Table 4: Projected old-age dependency ratio

	2015	2020	2030	2040	2050
EU-28	28.8	31.7	39.1	46.4	50.3
Cyprus	21.2	24.3	30.6	34.8	42.1

Source: Eurostat. Code: tps00200, accessed 12/02/2019.

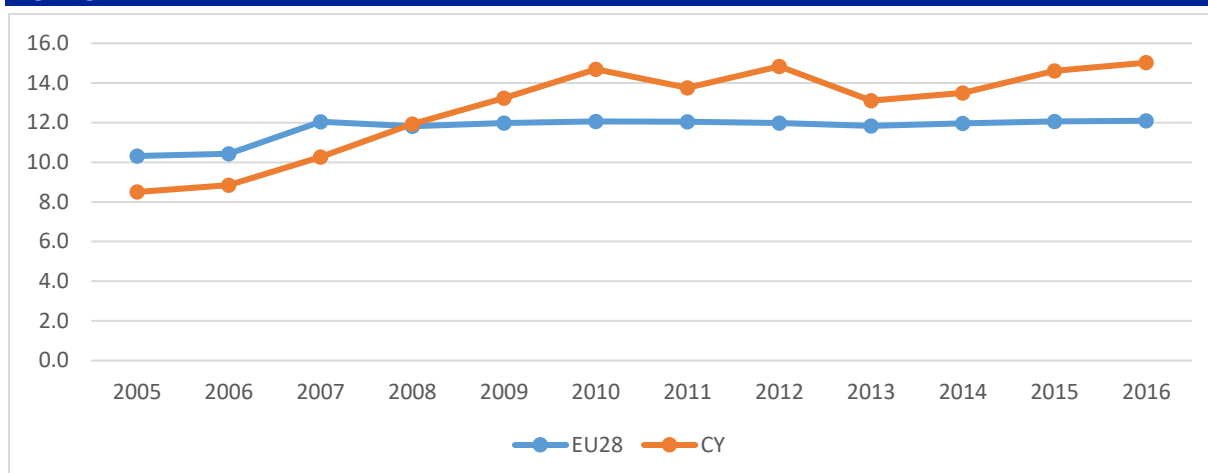
According to the analysis of the 2018 Ageing Report, gross public pension expenditure is projected to increase over the period 2016-2070, from 10.2% to 11.3% of GDP. However, over the same period (and according to the same source), revenue from social insurance contributions is also expected to increase by 2.6 pp – from 7.8% to 10.4% of GDP. The increase in contributions is driven by the legislated phased increases in the contribution rates over the period 2009-2039.

1.4 Reliance on means testing

As Figure 4 shows, in many EU countries the relative importance of means-tested benefits has increased. On average, the share of expenditure on means-tested benefits in the EU-28 increased by 1.5 pp over 2005-2016. In Cyprus, the respective share increased substantially – from 8.5% in 2005 to 15.5% in 2016. The reliance on means testing increased during 2005-2010 and after 2014.

There are two explanations for this trend in Cyprus (and most probably in the EU, too): a) the political attractiveness of targeting resources on the needy, which implies a gradual shift from Beveridge-type policies to liberal-oriented policies, and b) the adaptation of the welfare state to economic swings. Indeed, as incomes fell due to the recession, an increasing number of persons found themselves meeting the income criteria for means-tested instruments. In Cyprus, the latter effect was partially mitigated by the imposition of stricter income criteria in some cases.¹²

¹² For example, eligibility for single-parent benefits in Cyprus required an annual income not exceeding €89,000 in 2013. In 2014, this threshold was considerably reduced, to €49,000, meaning that single parents with income of between €49,001 and €89,000 lost the benefit.

Figure 4: Share of expenditure on means-tested benefits, 2005-2016, CY and EU-28

Source: Spasova and Ward (2019), Annex ESSPROS tables.

1.5 The general picture

Table 5 summarises the main findings of Section 1 in a qualitative manner. In brief, the increase in the relative level of social spending was moderate over the period 2005-2016 and can be mostly attributed to pension expenditure. Other changes observed are a decline in the share of healthcare spending and an increase in reliance on means-tested benefits.

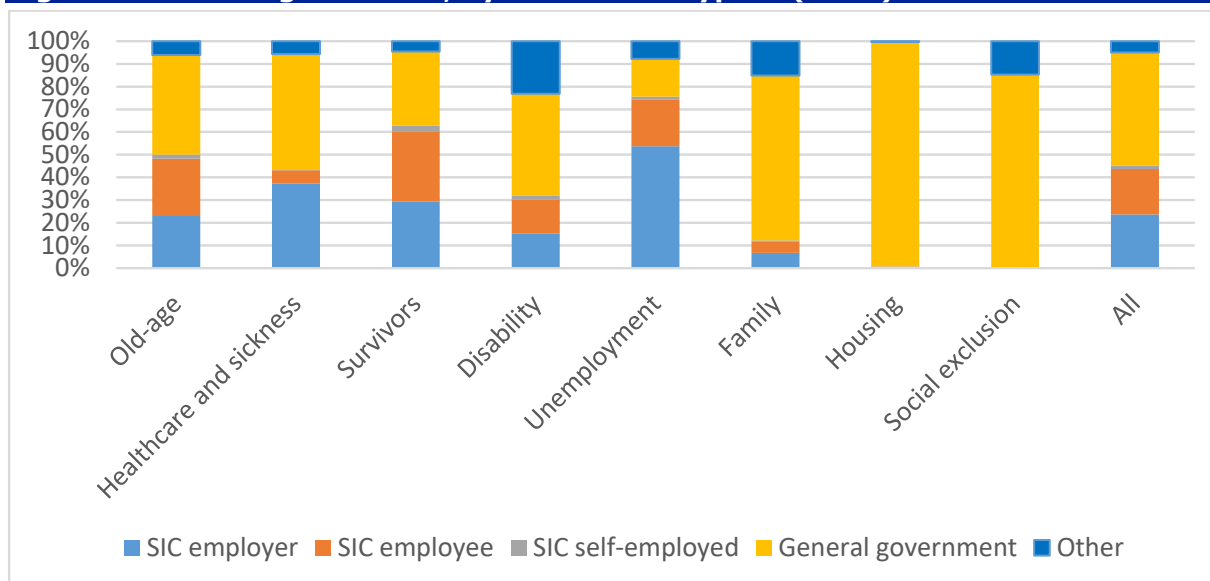
Table 5: Summary of main findings

Observed change	Degree	Potential explanations
Increase in the percentage of GDP devoted to social protection	Moderate	Population ageing, maturation of the pension system
Increase in real terms in social protection expenditure	Moderate to large	Population ageing, maturation of the pension system
Decrease in the share of healthcare in total spending	Large	Underfunded public system, procrastination in reforming the system
Increase in the share of pensions in total spending	Large	Population ageing, maturation of the pension system
Increase in means testing	Large	Political attractiveness of means testing, adaptation of welfare state to economic swings

2 Current mix and past changes in the sources of financing social protection

2.1 The structure of financing of social protection in Cyprus

Figure 5 provides a snapshot of the financing structure of social protection in Cyprus in 2015. The first eight bars describe the financing structure of each function of social protection, while the last bar describes the aggregate mix of financing.

Figure 5: Financing structure, by function in Cyprus (2015)

Note: SIC – social insurance contributions.

Source: Spasova and Ward (2019), Annex ESSPROS tables.

On aggregate, government revenue accounted for 49.8% of total financing. Social insurance contributions accounted for 45.3%, and the remaining 5% came from other sources. About half of social insurance contributions were paid by employers and the other half by employees and the self-employed. Specifically, social insurance contributions by employers accounted for 23.7% of total financing, contributions by employees accounted for 20.1% and only 1.5% came from contributions by self-employed persons.

The data also show that there was variation in the financing mix across the various functions of the system. Old-age benefits were 50% financed through social insurance contributions, with almost half of those contributions paid by employers. General revenue accounted for 43.8% of receipts, and the remaining 6.1% came from other sources. The share of social insurance contributions was relatively high in the financing of survivor and unemployment benefits. In particular, 63% of survivor benefits were financed by social insurance contributions, while the respective share for unemployment benefits was 75.5%.

Healthcare and sickness benefits appear to have been financed to a relatively large degree by government revenues (51.1%), with social insurance contributions accounting for 43.3% of total financing. Note, however, that the aggregation of healthcare and sickness benefits masks important differences in the financing mix between the two functions. This is because healthcare in Cyprus is mostly financed by government revenue, while sickness benefits (which are earnings-related contributory benefits) are mostly financed through social insurance contributions.

Finally, family, housing and social exclusion functions were predominantly financed by government revenue. This is as expected, since these social protection branches in Cyprus mostly include non-contributory benefits.

In terms of cross-country comparisons, Cyprus shows less reliance on social contributions than does Europe (the average share of social contributions in total financing is 54.5% in the EU-28). The link between social contributions and pension benefits is not as strong as it appears to be in most European countries. In particular, 64.8% of the total financing of old-age benefits stems from social contributions in the EU-28; the corresponding percentage in Cyprus is 50%, i.e. almost 15 pp lower. The financing patterns observed for family, housing and social exclusion functions are more oriented towards government revenues almost everywhere in Europe, with Cyprus being no exception. Financing of unemployment schemes shows large heterogeneity across European countries. Cyprus

belongs to the group of countries which mostly rely on social contributions to finance these schemes. Specifically, unemployment benefits in Cyprus are contributory and earnings related. Another point of departure from European standards regards the share of contributions paid by employers, which in Cyprus appears to be relatively low (23.7% vs 34.9% in the EU-28 in 2015).

As regards surpluses and deficits, lack of data prevents a detailed analysis of the social protection schemes by function. Yet, the final accounts of the GSIS, which constitutes the first pillar of the social protection system providing pensions and short-term contributory benefits (unemployment, sickness, maternity and other benefits) show that total receipts significantly exceeded total expenditure in the period 2005-2010. After that period, the gap between total receipts and expenditure narrowed: in 2016, total receipts amounted to €1.375 billion, while total expenditure was €1.392 billion – a small difference between income and expenditure of €17 million.¹³

To sum up, compared with the EU-28 the financing mix by social protection function in Cyprus shows a number of differences in the structure of the receipts both across functions and in total. Before proceeding to analyse the strengths and weaknesses of these financing options in Section 3, we assess the main trends in social protection financing in the period of reference, describe the design of social contributions and finally comment on ongoing and planned reforms.

2.2 Changes in social protection financing in Cyprus

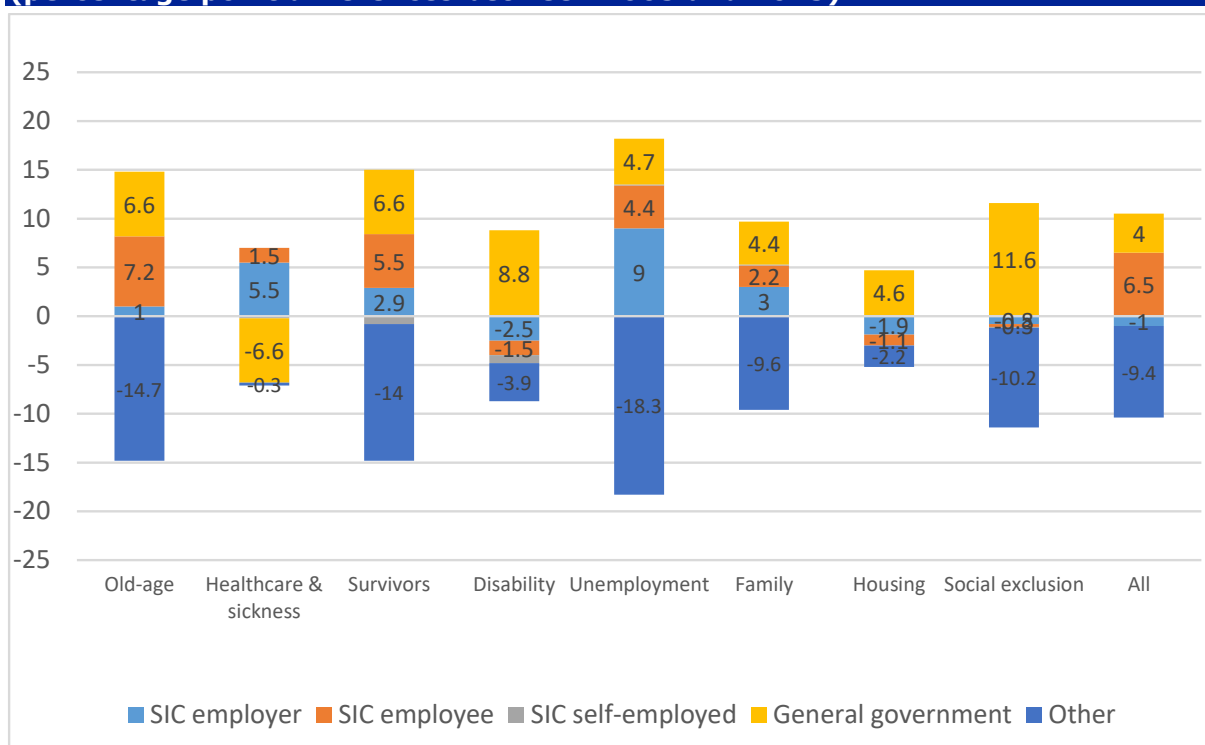
Figure 6 shows the change in the relative share of each source of financing between 2005 and 2015 in Cyprus. As the last bar of the figure shows, the composition of financing has changed over the period. The share of general government revenue has increased by 4 pp, from 45.8% in 2005 to 49.8% in 2015. More weight has been placed on funding the system through social contributions. The share of contributions paid by employees increased by 6.5 pp and the share paid by employers decreased by 1 pp. On balance, the share of social contributions increased by 5.5 pp, accounting for 45.3% of total financing in 2015. The share of financing from other receipts shrank significantly (by 9.4 pp). In 2015, only 5% of total resources stemmed from other receipts.¹⁴

There were changes in the structure of financing across all functions, with the most pronounced observed for pension and unemployment benefits. Less affected was the financing mix of housing, disability, healthcare and sickness benefits. A common pattern is the increase in the share of contributions paid by employees, which is observed for old-age (+7.2 pp), healthcare and sickness (+1.5 pp), survivor (+5.5 pp), unemployment (4.4 pp) and family benefits (+2.2 pp). The share of government revenues also increased across all functions, with the exception of healthcare and sickness benefits (-6.6 pp). Finally, there were reductions in the share of other sources, which in some cases reached -18.3 pp (unemployment) and -14.7 pp (old age).

¹³ Final Accounts of the Social Insurance Fund. Available at: <http://www.mlsi.gov.cy/mlsi/sid/sidv2.nsf/All/D8161436B525F009C22580EC0032E540?OpenDocument>

¹⁴ The readily available data do not allow a clear picture to be gained of the components of the 'other receipts' category. However, according to the European System of Integrated Social Protection Statistics (ESSPROS) Compendium of methodological clarifications of 2017, other receipts may include property income and income from other sources (i.e. miscellaneous receipts not otherwise attributable, such as net proceeds from private lotteries and claims on insurance companies). In the case of Cyprus, it is likely that this category includes income from financial assets (i.e. interest or dividends), which fell due to a number of reasons, including the effect of the financial crisis.

Figure 6: Changes in the structure of social protection financing in Cyprus (percentage point differences between 2005 and 2015)



Note: SIC – social insurance contributions.

Source: Spasova and Ward (2019), Annex ESSPROS tables. Note: See footnote 15 for a more detailed explanation of the component 'Other'.

There are some differences from the situation in the EU-28 generally. In most European countries, there has been a trend toward a decreasing share of social contributions in total receipts. Specifically, the share of social contributions decreased from 58.7% to 54.5% in EU-28 between 2005 and 2015. This is driven by a declining share of social contributions paid by employers (from 38.5% to 33.9%). This decrease appears to be compensated for by an increasing trend in the share of government revenues (from 37.8% in 2005 to 40.4% in 2015).

Another difference from the EU-28 lies in the relative importance of government revenue in financing healthcare and sickness benefits. In the EU-28, this remained relatively stable (i.e. fluctuating around 50%), whereas in Cyprus it decreased considerably (by 6.6 pp).

Finally, the share of other sources plays a limited role in most European countries (5.1% in 2015). In Cyprus, the relative importance of other sources decreased significantly (across all functions), reaching 5.0% in 2015 – very close to the EU-28 average.

2.3 The design of social contributions

The basic pillar of social protection in Cyprus (GSIS) provides old-age pensions and survivor benefits, as well as short-term contributory benefits (sickness, maternity, paternity, unemployment and other benefits). Participation in the GSIS is compulsory, and the scheme is financed through contributions paid by employers, employees and the government. For employees, contributions are calculated on gross earnings, while a notional insurable income per occupation category is used for the self-employed. In particular, a compulsory minimum insurable income is set for each category. However, the self-employed have the option of reporting higher insurable earnings, up to the maximum insurable earnings.

The total contribution rate for employees is currently 21.5% (as of 1 January 2019) (with an upper ceiling on insurable earnings which is revised annually¹⁵) and is paid as follows:

- 8.3% by the employee;
- 8.3% by the employer; and
- 4.9% by the government.

The contribution rate for the self-employed is 20.5% (15.6% is paid by the self-employed person and 4.9% by the government). The contribution rates are legislated to increase over the next decades (see Section 2.4).

According to the Country Fiche of the 2018 Ageing Report, at that time the total contribution rate was 20.2%; of that, 17.9 pp were allocated to GSIS pensions and the remaining 2.3 pp to short-term benefits (unemployment, maternity, etc.). It is also important to note that all the future increases in contribution rates are scheduled to be allocated to the long-term benefits (i.e. pensions) of the GSIS.

Finally, a compulsory healthcare contribution of 1.5% was imposed on the gross earnings of civil servants and public-sector pensioners in 2013. This measure was envisaged as the first step towards a contributions-based system of healthcare universal coverage (Theodorou et al., 2018). Up until 2013, these beneficiaries had free access to the public healthcare services. New healthcare contributions will be imposed in 2019 and 2020 (see Section 2.4.2).

2.4 Most important changes, ongoing and planned reforms affecting financing structure

2.4.1 Changes in social security contribution design

In April 2009, the government legislated a series of gradual increases in social insurance contribution rates to mitigate the impact of population ageing on the economic sustainability of the GSIS. In particular, seven rounds of 1.3 pp increases were scheduled over the period 2009-2039. In January 2014, an additional 1 pp was imposed, over and above the increase that was slated to take effect in 2014. The total contribution rate is due to increase over the coming decades as shown in Table 6.

Finally, it should be mentioned that in October 2011, the Government Employees Pension Scheme (GEPS) closed to new members and the contribution rate for existing members of the scheme was increased, with the objective of strengthening its fiscal viability.

Table 6: Past, current and future contribution rates (%)

	2009-2013	2014-2018	2019-2023	2024-2028	2029-2033	2034-2038	2039+
Employee	6.8	7.8	8.3	8.8	9.3	9.8	10.3
Employer	6.8	7.8	8.3	8.8	9.3	9.8	10.3
State	4.3	4.6	4.9	5.2	5.5	5.8	6.1
Total	17.9	20.2	21.5	22.8	24.1	25.4	26.7

Source: Republic of Cyprus (2017).

¹⁵ Insurable earnings are the gross earnings of the employee, up to a maximum of six times the basic insurable earnings. In 2016, basic insurable earnings were €174.38 per week or €9,068 per year. The maximum insurable earnings were €54,396 in 2016.

2.4.2 Shifts from general taxes to social contributions

The healthcare reform will alter the financing of the public healthcare system. The old system was primarily financed through general taxation, while the new system will be financed through compulsory contributions by all employees, employers, self-employed and pensioners.

It was decided that contributions would be linked to the National Healthcare System's implementation process, and since beneficiaries will enjoy only primary care services in 2019, contributions for that year will be lower than their full level. Specifically, from 1 March 2019, contributors pay the contribution rates reported in the second column of Table 7. Contributions will increase to their full levels in March 2020, reaching 2.65% and 2.9% for employees and employers, 4% for the self-employed and 2.65% for pensioners. The state's contribution will be 4.70% for each contributor. The income ceiling for the purpose of estimating health contributions is set at €180,000 per annum.

Table 7: Financing of the new healthcare system

Contributors	Contribution rates 01/03/2019-28/2/2020	Contribution rates 01/03/2020
Employees	1.70%	2.65%
Employers^a	1.85%	2.90%
State	1.65%	4.70%
Self-employed	2.55%	4.00%
Pensioners	1.70%	2.65%
Rentiers (income from dividends, rents, interest)	1.70%	2.65%
Public officials	1.70%	2.65%

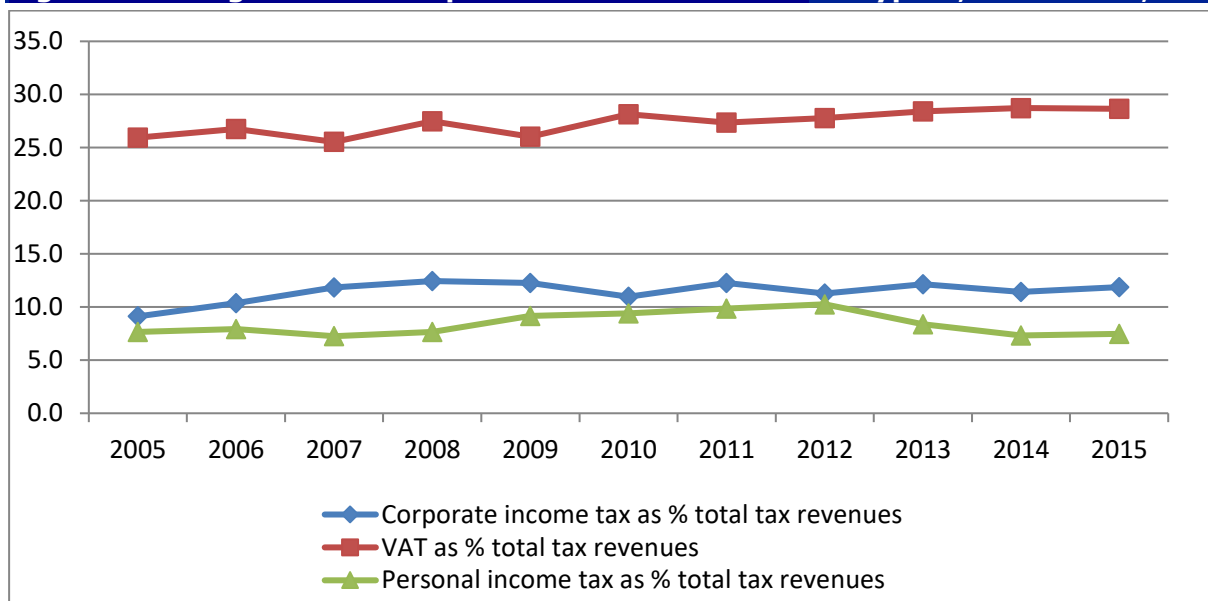
Notes: ^a including the state as employer.

Source: Health Insurance Organisation.

3 Strengths and weaknesses of the existing mix of financing options and potential future sources of financing

3.1 Changes in the composition of tax revenues in Cyprus

Section 2.2 concludes that the share of social contributions increased by 5.5 pp, whereas the share of general government revenues increased by 4 pp, between 2005 and 2015 in Cyprus. However, before proceeding to a discussion of the strengths and weaknesses of the existing mix of the financing structure, it is important to decompose general government revenues into the major constituent accounts, and to investigate the evolution of these accounts over the period 2005-2015 in Cyprus. This will allow us to shed greater light on the existing mix of the financing options.

Figure 7: Changes in the composition of tax revenues in Cyprus, 2005-2015, %

Source: *Taxes in Europe Database v3, European Commission.*

Figure 7 presents the evolution of the major accounts of general tax revenues between 2005 and 2015 in Cyprus. As can clearly be seen, the share of VAT revenue increased by 2.7 pp, from 25.9% in 2005 to 28.7% in 2015. Similarly, the share of corporate income tax increased by 2.8 pp – from 9.1% in 2005 to 11.9% in 2015. Finally, the share of personal income tax remained relatively stable, showing a minor decrease of 0.2 pp – from 7.7% in 2005 to 7.5% in 2015.

Combining the information that we get from Section 2.2 with that obtained from Figure 7, we can reach a more precise conclusion about the mix of financing options in Cyprus over the period 2005-2015. Specifically, both the share of social contributions and the share of general government revenue increased. By focusing on the specific accounts of general government revenues, we see that the observed increases came mostly from: (i) increased VAT tax revenues and (ii) corporate income tax revenues; by contrast, personal income tax revenues remained relatively stable during the period under investigation.

3.2 Strengths and weaknesses of the existing mix of financing options

Alternative financing sources should be judged both on their ability to generate funds and on their implications for general economic performance. Below we proceed to a brief assessment of the existing financing mix in Cyprus, based on the following criteria:

- work incentives
- labour costs
- risk of evasion
- administrative/collection costs
- adaptability to demographic/economic swings
- distributive effects
- vulnerability to structural changes in the labour market/new world of work.

3.2.1 Work incentives

Personal income taxes, employers' and employees' SICs) all affect the work incentives in the labour market, since they are part of the so-called *tax wedge* (i.e. the difference between the total labour cost paid by the firms and the real consumption wage of a worker).

In considering how taxes affect the work incentives of households, economic literature focuses on so-called *uncompensated wage elasticity*, which captures the responsiveness of labour supply to changes in the *tax wedge*. According to recent empirical estimates, uncompensated wage elasticity differs substantially between different groups of individuals. More precisely, it is positive, but close to zero, for men and single females without children, but significantly larger for second earners, single parents and low-skilled workers (see e.g. European Commission, 2012 and Econpubblica, 2011 for a recent review of the empirical literature). So, changes in the tax wedge are expected to affect differently the labour supply decisions of different populations. Specifically, an increase in the tax wedge is expected to damage considerably the labour supply of the more socially vulnerable groups (i.e. low-skilled workers, single parents and second earners), whereas it is not expected to affect substantially the labour supply of high-skilled workers or single women without children.

If we focusing on the case of Cyprus over the period 2005-2015, the observed increases in the tax wedge come mostly through increases in SICs, since revenues from personal income tax remained relatively stable during the period under examination. The basic strength of this structure of the financing mix is that, since SICs give an entitlement to specific benefits, they generally distort the work incentives of individuals less than personal income tax. Similarly, a tax structure that targets consumption and corporate income is also considered to distort the labour supply less. This is because both consumption and capital taxes are, in general, treated as neutral in terms of the labour/leisure decisions of individuals (see European Union, 2015). On the other hand, the main weakness of this reliance on SICs – which are expected to increase significantly in the coming decades (as shown in Table 5) – is that it will inevitably lead to an increase in the tax wedge, which could damage work incentives, especially among the most vulnerable social groups.

3.2.2 Labour costs

From a theoretical point of view, the relationship between the components of the tax wedge (i.e. SICs paid by employers, SICs paid by employees, personal income tax) and the total labour cost depends on: (i) labour market conditions and (ii) labour market institutions. If unemployment is high and job opportunities are scarce, employers' bargaining power is strong compared with that of employees. Under such conditions, workers bear the burden of taxation in the form of lower gross wages, even if the tax is levied – according to the legislation – on employers. In such a case, changes in the tax wedge are shifted backwards onto wages, without an increase in the overall labour cost. By contrast, when employers find it difficult to fill job vacancies, the bargaining power of workers is strong. Under this scenario, even if the tax is levied on workers, they are able to pass it on to employers by claiming an offsetting pay rise, which leads to an increase in the overall labour cost. Obviously, labour market institutions (i.e. strong trade unions, strict employment protection legislation) also matter, since they also influence the relative bargaining power of employers and workers.

Several empirical studies support the view that the effect of the tax wedge on labour costs is not negligible. More precisely, Arpaia and Carone (2004) suggest that a 1 pp increase in the tax wedge leads to an increase in the real labour cost of 0.1 pp, whereas in Alesina and Perotti (1997) and Padoa-Schioppa (1992) the effect is found to be even larger (0.2 pp and 0.14 pp, respectively).

In the case of Cyprus in the period 2005-2015, past increases in SICs may not have translated into increased labour costs, due to the extremely high levels of unemployment, especially over the period 2012-2015 (when the unemployment rate was over 10%). However, given the gradual reduction in unemployment rates, future increases in SICs (described in Table 5) are expected to have a sizeable impact on labour cost in coming decades. This might affect labour demand and possibly – in some labour-intensive sectors – the relative competitiveness. On the other hand, it must be noted that the increased reliance on consumption and corporate tax revenues appears to have a neutral effect on labour costs (European Union, 2015).

3.2.3 Risk of evasion

Cyprus has a large shadow economy. According to estimates by Medina and Schneider (2018), the shadow economy in Cyprus during the period 2005-2015 accounted for 31.55% of GDP – far above the European average of 21.42% over the same period. Therefore, the risk of evasion in general is high. The basic advantage of the financing mix implemented in Cyprus is that it appears to take into account the reality of this large domestic shadow economy. Thus, it is increasingly based on SICs, which are generally less risky in terms of evasion than – for example – personal income tax. This is because SICs are contract related and provide an entitlement to specific benefits. Similarly, a reliance on revenues from consumption and corporate income is preferred in terms of combating evasion, since consumption taxes face no risk of evasion and corporate income taxes face a relatively low risk (European Union, 2015). However, it must be stressed that the sizeable rise in SICs that is expected to take place in Cyprus in the next decades (as shown in Table 5) will inevitably increase the incentive for individuals to shift their activities into the shadow economy, and this is a threat that should be addressed effectively in the near future.

3.2.4 Administrative/collection costs

Theoretically, since social insurance contributions are collected at the level of the company, they have low administrative costs. Similarly, consumption taxes have low collection costs, since they do not require any special administration for collection. So the only finance vehicle that presents a relatively high cost of collection is the income tax – and this cost is dependent on the complexity of the income tax system. The financing mix implemented in Cyprus over 2005-2015 presents major advantages concerning administrative/collection costs, since it is increasingly based on SICs and increased tax revenue from VAT, and only to a lesser extent on revenue from personal income taxes.

3.2.5 Adaptability to demographic/economic swings

Tax revenue from all alternative sources is affected to some extent by economic business cycles. However, tax revenue from personal income tax is particularly responsive (compared to other sources) to the economic cycle, due to the progressive nature of income taxation. Obviously, the basic advantage of the financing mix in Cyprus is that it is not based to any large extent on tax revenue from personal income tax, and is therefore not particularly vulnerable to economic cycles. On the other hand, the increased reliance on SICs between 2009 and 2019 (a trend that is expected to continue in the next decades) makes the financing of the social protection system vulnerable to population ageing (Table 3), and in general to demographic dynamics. This is because the old-age dependency ratio is a factor of major importance for the revenue-generating capacity of SICs (European Union, 2015).

3.2.6 Distributive Effects

The financing mix implemented in Cyprus over 2005-2015 presents no clearly defined redistributive characteristics. This is because, on the one hand, increased fiscal reliance on tax revenue from VAT makes the financing scheme more regressive in nature, while on the other hand, increased reliance on tax revenue from corporate income tax adds some clearly progressive characteristics. Similarly, revenue from personal income tax – which is in principle more progressive – remained stable over the period under examination. The only clearly redistributive characteristic of the existing financing scheme is that, through increased reliance on SSCs, the system spreads the risk across those who contribute and who are therefore entitled to a number of specific benefits, irrespective of their income. However, at the same time, the existing financing scheme excludes those outside employment from a number of benefits, and this appears to be its major weakness.

3.2.7 Vulnerability to structural changes in the labour market/new world of work

During the last decades, a large number of structural changes have taken place in the labour markets around the world. The emergence of micro-enterprises, the increased number of freelancers and the emergence of new forms of small and medium-sized enterprises (SMEs) are all factors indicating that more employers and employees are free agents, who are not represented in formalised industrial-relation schemes. The main strength of the financing mix in Cyprus is that it is not heavily dependent on tax revenue from personal income taxes, which are particularly vulnerable in an economic context characterised by increased self-employment and freelancing activities. From this perspective, the observed increased fiscal reliance on tax revenue from consumption taxes appears to be a fairly safe financing option for social protection in this new labour market environment. On the other hand, increased fiscal reliance on SICs may prove a poor financing strategy, since social insurance contributions are particularly contract related and are based on labour-relations schemes that are likely to weaken in the near future.

3.3 Policy recommendations and relevant planned reforms

Population ageing and the structural changes that have taken place in the European labour markets present major challenges for social protection and the welfare state in Europe in the years to come. Both of these factors put significant financial pressure on social security systems and call for a completely new assessment of the existing design of financing options.

From this perspective, the financing mix in Cyprus (which is characterised by an increased fiscal reliance on SICs, tax revenue from VAT and corporate income taxes) presents some distinct advantages. Principal among these is that it is scarcely dependent at all on tax revenue from personal income taxes – particularly vulnerable in the economic context of increased self-employment and freelancing activities. Moreover, the increased reliance on tax revenue from consumption taxes and social contributions generally distorts work incentives less, and implies a lower risk of evasion and lower administrative and collection costs, than the alternative option of relying on personal income taxes.

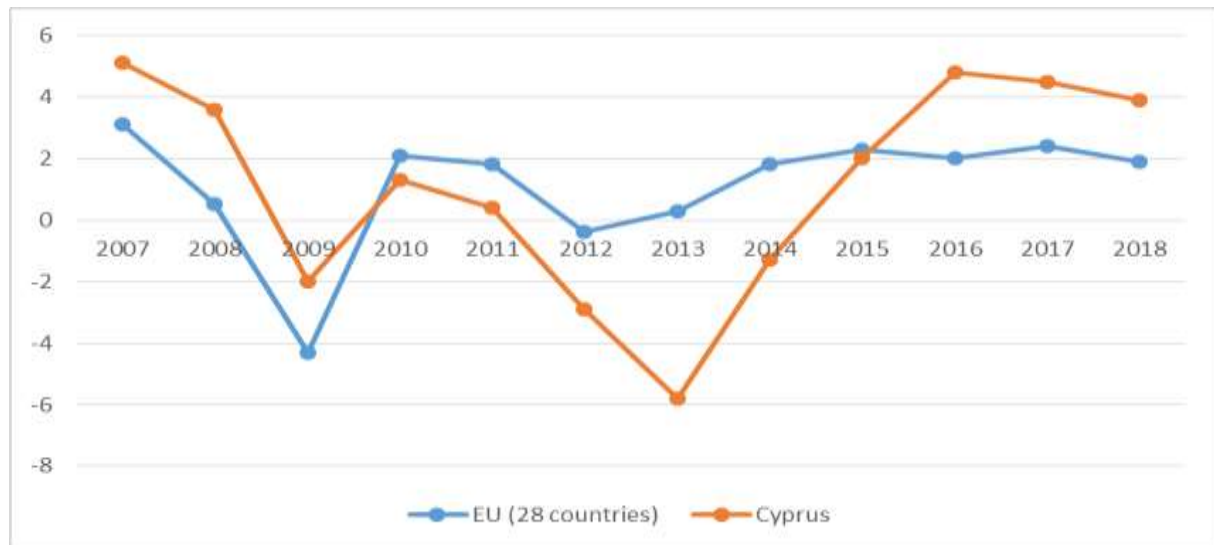
On the other hand, the increased reliance on SICs that has occurred over the past decade and that is expected to continue into the future, makes the financing of the social protection system vulnerable to population ageing. This is a threat that should be addressed effectively in the near future. Indeed, to this end several policy initiatives have been followed, such as measures to prolong working life (e.g. actuarial penalties for early retirement, automatic adjustment of statutory pensionable age – see Appendix for further details); but more reform effort might be needed. Moreover, policy makers should shine the spotlight on labour market conditions and institutions in Cyprus, and design appropriate reforms to address the issue of increasing labour costs due to increasing SICs.

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Annex

Figure A1: Real GDP growth, Cyprus 2007-2018



Source: Eurostat Online Database, Table: tec00115, accessed on 13/03/2019.

Pension Reforms (2009-2013)

First wave (2009-2010): Social Insurance Law and Income Support Scheme for low-income pensioners.

- April 2009: legislated increases in social insurance contribution rates allocated to long-term benefits – seven increases of 1.3 percentage points every five years over the period 2009-2039 – primarily aimed at mitigating the impact of population ageing.
- April 2009: stricter eligibility conditions for old-age social insurance pension introduced gradually (until January 2012) – increase in the minimum requirement from three to ten years of paid contributions.
- January 2010: a means-tested top-up Income Support Scheme for low-income pensioners was implemented in order to reduce the high poverty rate in old age in Cyprus, which at that time was among the highest in the EU.

Second wave (2011-2012): Crisis period – Social Insurance Law and GEPS Pension Law.

- October 2011: GEPS closed to new members and the contribution rate for existing members of GEPS increased, with the objective of strengthening the fiscal viability of GEPS and reducing pension inequalities between the public and private sectors.
- December 2012: a number of reform measures, primarily aimed at securing the long-term viability of the GSIS:
 - as of 1 January 2013, actuarial reduction in pension entitlements from the GSIS of 0.5% per month for retirements earlier than the statutory retirement age, in line with the planned increase (of six months per year) in the minimum age for entitlement to an unreduced pension (to reach 65) over 2013-2016;
 - freeze of pensions (all types) paid under the GSIS for the period 2013-2016;
 - stricter eligibility conditions for old-age pension – as of 1 April 2013, gradual extension of the minimum contribution period (one year per year) from 10 to 15 years over the period 2013-2017;
 - as of 1 January 2014, a 1 percentage point increase in the contribution rate of employees and employers to the GSIS over and above the increase anyway due in 2014 under the 2009 GSIS reform; and

- introduction of an automatic adjustment to the statutory retirement age every five years, in line with changes in life expectancy at the statutory retirement age.
- December 2012: a number of reform measures aimed at containing the future increase in GEPS expenditure, including:
 - the pension calculated for service after 1 January 2013 to be based on the career-average salary and revalued based on changes in the basic insurable earnings under the GSIS;
 - early and normal retirement ages gradually increased, with normal retirement age gradually extended by two years over the period 2013-2016;
 - early retirement pensions actuarially reduced by certain factors, but only the part that corresponds to service after 1 January 2013 is affected; and
 - freeze of GEPS pensions for the period 2013-2016 and subsequent future yearly increases in pensions set at 50% of the rate of increase of the cost of living adjustment (COLA) indexation.

Finally, pensioners were also affected by (i) the introduction of a special contribution, which was abolished in January 2017; and (ii) special reductions – applied only to pensioners of the broader public sector.

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