



# **Mutual Learning Programme**

DG Employment, Social Affairs and Inclusion

**Host Country Discussion Paper - Cyprus**

## **Towards a National Minimum Wage?**

**Peer Review on "Minimum wages – extending coverage  
in an effective manner"**

**Limassol (Cyprus), 19-20 September 2019**



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## Table of Contents

Executive summary .....	1
1 Situation in the host country .....	2
1.1 The current economic situation in Cyprus .....	2
1.2 Undeclared work, informal employment and envelope wages .....	4
2 Current structures and mechanisms for setting the minimum wage in Cyprus .....	5
2.1 Formal legal aspects of minimum wage setting .....	5
2.2 Approach to setting the minimum wage and mechanisms in place .....	6
2.3 The wage distribution in Cyprus .....	6
2.4 Interaction with the Social Safety Net in Cyprus .....	8
2.5 Minimum wage compliance .....	8
2.6 Impact of the current minimum wage policies on the economy and the labour market .....	9
3 Future policy directions .....	9
3.1 What are the origins and nature of a national minimum wage plan? .....	9
3.2 Aims and envisaged outcomes of a national minimum wage .....	10
3.3 Next steps for the implementation of a statutory minimum wage .....	11
4 Opportunities and challenges of the introduction of a general statutory minimum wage .....	12
4.1 Potential impact on the covered sectors of Cypriot economy .....	12
4.2 Sectors not covered by collective bargaining, emerging sectors and platform workers .....	12
4.3 The minimum wage in the context of the wage distribution .....	13
4.4 Multiple national minimum wages such as those in collective bargaining agreements .....	14
4.5 A single national minimum wage and its impact on collective bargaining, workers and employers .....	15
4.6 How might a minimum wage system affect the existing social safety net and the GMI in particular? .....	15
5 Key issues going forward .....	16
6 References .....	17
Appendix .....	19

## **Executive summary**

The crisis in Cyprus (2012-2016) was deep and the measures taken had a profound impact. Economic growth fell to its lowest level (-5.8 %) in 2013 and the Labour Force Survey (LFS, relating to persons aged 15 and over) unemployment rate peaked at 16.1 % in 2014. Recovery began in 2015 and by 2018 the real Gross Domestic Product (GDP) growth rate was 3.9 % and the unemployment rate had fallen to 8.4 %. This recovery, which is expected to continue into 2019 and beyond, was largely based on positive developments in the construction and tourism sectors; the first aided by policy and the second by geopolitical developments in the region. Business services continued to make a significant contribution to employment and growth. Nascent sectors, such as tertiary education, research, innovation and development, have flourished and have begun to contribute importantly and sustainably to long-term economic growth. Some structural reforms, such as the Guaranteed Minimum Income (GMI) and the National Health System, have been implemented but many others have not been achieved because of pressure from various lobby groups.

Legally binding minimum wages (EUR 870 upon hiring and EUR 924 after six months, plus hourly rates for cleaners and security guards), which had risen rapidly prior to the crisis, have been frozen since 2012. Minimum wage legislation applies to occupations (e.g. formal carers, cleaners, clerks, retail trade assistants, and security guards) that are not unionised. In the private unionised sector, collective bargaining agreements, which are not legally binding, contain so-called 'minimum indicative starting salaries' for about 180 occupations. These range from EUR 663 per month for assistant waiters, to EUR 1 991 per month for head cooks.

The election programme of the current President stated that, once full employment (generally considered to have been reached when the LFS unemployment rate in CY has fallen below 5 %) returns, a national minimum wage that would hold for all occupations should be considered. Whether a single figure, how it would be set, how its level would relate to the Guaranteed Minimum Income (GMI) scheme and be adjusted over time and at times of crises, and how full employment is defined were not discussed.

A national minimum wage might be modelled along the lines of the current minimum wage system, putting it into effect once the LFS unemployment rate has declined to its pre-2008 average of about 4.5 %. By then, the low-skill minima in collective bargaining agreements for most occupations in the left tail of the wage distribution, should be close to EUR 870 and could be brought up under the umbrella of the minimum wage. As with the minimum wage now, the national minimum wage would be set following consultations and could be revised as needed (up or down in very severe crises). Such a system could be administered and enforced as currently, at relatively low cost. This minimum wage would be national, it should not be so high as to trigger adverse hour and employment effects, it would be high enough to provide a living wage and work incentives for GMI recipients, and it should also reduce the implicit reliance on the GMI by employers (if any) who are aware of its existence and thus pay low wages. Social programmes specifically designed for certain groups (e.g. persons with disabilities and refugee claimants who are eligible to work) should not be disturbed and agriculture/animal husbandry sectors may require special provisions.

The collectively bargained indicative starting salaries in the private unionised sectors constitute a current record of freely bargained minima for about 180 occupations. These should be borne in mind, going forward. They capture market forces at work which, if violated, could create labour market dysfunction for the occupations concerned. It is not likely that they can form the basis for a system of national minimum wages, even if grouped into coarse categories. They would have to become legally binding and their enforcement across the entire economy would be extremely costly, and possibly unacceptable. They would change the balance of bargaining power in collective bargaining negotiations with unpredictable long-term results. And, if enshrined in law,

they would be inherently contradictory (legislate the freely negotiated wage minima!) and might make the occupational wage structure too rigid.

Binding minimum wages entail many uncertain redistributions. As instruments for poverty alleviation they are not as direct and targeted as a GMI. As support to groups with particular needs, they are not purpose-built and not sufficiently flexible. Going forward, it is important to ask what a national minimum wage seeks to achieve, who it may benefit and who it may hurt, whether these effects can be predicted with certainty, and whether a national minimum wage is the best means of achieving the desired objectives. If the national minimum wage is a good way forward, what form should it take and when should it be applied? These and other relevant questions are raised and discussed below.

## **1 Situation in the host country**

### **1.1 The current economic situation in Cyprus**

#### **1.1.1 Macroeconomic growth, sectoral performance and future projections**

The global financial crisis of 2008 did not impact the Republic of Cyprus (Cyprus) until 2009, when real Gross Domestic Product growth fell from 3.7 % in 2008 to minus 2 %. Real GDP growth returned in 2010 (1.3 %) and remained positive in 2011 (0.4 %). However, in June 2012, a distinct and very severe Cyprus crisis, which had been brewing for a while, caused the government to seek external financial assistance. Despite a prompt response from the 'Troika' (International Monetary Fund, European Central Bank, and European Union Commission), a provisional understanding with the lenders was not reached until November 2012 and the first austerity measures were not taken until the 2013 budget was approved in December 2012. Elections and a change in government followed, and a very broad and formal Memorandum of Understanding (MoU, 2013) was implemented.

Bank resolution and severe austerity measures followed. Real GDP growth was negative for each of the years 2012, 2013 and 2014 (-2.9 %, -5.8 % and -1.3 % respectively), the 15+ LFS unemployment rate (which had averaged around 4.5 % in the nine years before 2008), peaked at 16.1 % in 2014 and, in the 15-24 age group, the youth unemployment rate peaked at 38.9 % in 2013. Long-term LFS unemployment (12 months or more), which had averaged 22.6 % of the total unemployed in the nine years prior to 2008, shot up to 47.7 % in 2014. A shock like this had not been felt since 1974, when the unemployment rate in the second half of 1974 reached 29 %.

Real GDP growth became positive again (2 %) in 2015, the last full year of the MoU, and Cyprus formally exited the programme in April 2016, three years after its adoption. Growth continued and even increased to 4.8 % in 2016, declining to 4.5 % in 2017 and 3.9 % in 2018. The provisional real GDP growth rate in the first quarter of 2019 is estimated at around 1 % (Cyprus Statistical Service or Cystat). The European Commission's (2019) forecast for 2019 is 3.3 %. The International Monetary Fund's (2019) forecast for 2019-20 is 3-3.5 %. The Economics Research Centre, which had forecast a 3.5 % real GDP growth rate for 2019 (Economics Research Centre, 2019a), has just reported a decline in economic sentiment due to weaknesses in the service and construction sectors (Economics Research Centre, 2019b).

This economic recovery owed much to the very strong contribution to GDP growth by specific sectors (Cyprus Statistical Service, 2019a): In 2018, these included the following categories of sectors as defined by Cystat: *Construction* (a contribution of 24.7 %), related sectors e.g. *mining and quarrying* (19.5 %), *arts, entertainment and recreation* (10.8 %), *accommodation and food service activities* (5.7 %), *administrative and support service activities* (8.2 %), *professional, scientific and technical services* (6.1 %), and *other service activities* (5.7 %). The weighted contribution to value added of all sectors in the economy amounted to the 3.9 % growth rate reported above by Cystat

in its National Accounts by Economic Activity (2019a). Tourist arrivals, which contributed substantially to the third and fourth sectors above, have been high over the last few years but revenues per capita have been declining. It is encouraging that the recovery unfolded in a context of fiscal probity and a budget balance that was in surplus (Cystat 2019b). This surplus is necessary to repay the Troika loans and lower the debt to GDP ratio.

How certain are the 2019 real GDP growth prospects adopted by forecasters? The impressive year-over-year aggregate growth figures reported for 2016-2018 above reflect, to an extent, the depth of the recession during the years 2012-2014. This view is consistent with the declining pattern of growth during 2016-2018 and expected in 2019: As real GDP recovered towards past levels, the increase in the following year was smaller. Furthermore, severe aggregate uncertainty exists due to Brexit, geopolitical developments in the Middle East, trade wars and possible new monetary policy settings abroad. Thus, important caveats must be added to the robust forecasts reported earlier.

At the sectoral level, too, some doubts exist as to whether the growth in the leading sectors can be sustained. Construction has been much aided by the Cyprus Investment Programme which allows foreign applicants to secure Cyprus citizenship with an eligible investment. Discussions within Cyprus raise doubts as to the desirability of this policy, and country initiatives of this type are being re-considered at the EU level. Should this policy be rolled back, an impact on construction and related sectors will be felt.

Tourist arrivals, aided until now by geopolitical developments in the area, have achieved record highs, leading to the addition of further capacity by hotels and a positive impact on other sectors. Short-term platform renting has blossomed, providing further stimulus to the hospitality sector. However, expenditures per arrival have declined. Also, just-released data on tourist arrivals for the first six months of 2019 were lower than in the previous year. It must be remembered that tourist flows are fickle, suggesting caution in assessing the future contribution of this sector, too, to the economy of Cyprus.

Administrative and Support Service Activities, Professional, Scientific and Technical Services, and Other Service Activities have all contributed in a noteworthy way to the record of growth since 2014. So has the robust pharmaceuticals sector. An emerging sector is research, innovation, and development. A new National Strategy has been developed and a Deputy Ministry for Research, Innovation and Digital Governance is planned. This sector is underpinned by profound developments in tertiary education and research, a sector that has undergone a radical change in the last three decades since the first university took students in 1992/93: Many public and private universities and several more specialised institutes have emerged. They are making a mark by securing an impressive amount of external research funding, attracting domestic and foreign students<sup>1</sup> and providing employment to hundreds of young scientists. In contrast to the cautious optimism expressed above about construction and tourism, this sector promises to absorb *sustainably* large numbers of scientists and its expansion is consistent with the revealed preference of Cypriot youth for university training, rather than technical education or direct entry to the labour market from high school.

Finally, long-term constraints to macroeconomic and sectoral growth involved low investment (Hardouvelis, 2019) and structural reforms mentioned in the MoU which have eluded policy makers; they include reforms of the public sector, the judicial system, the local authority architecture, the primary and secondary education sectors, and the privatisation of the telephone and electricity services. The banking sector was 'bailed in' as well as 'bailed out', yet it continues to (i) be troubled by non-performing loans and (ii) be trapped in the inappropriate handling of title issuance in property developments that it itself has funded. All these problems inhibit growth and require urgent solutions.

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<sup>1</sup> There are now in excess of 50 000 students in tertiary education institutions, only half of whom are local. The other half divide roughly equally between EU and third country students. The yearly cohort of high school graduates in Cyprus is around 8 000-9 000, so about 75 % of the yearly cohort would enrol in two to four-year tertiary education programmes.



The considerations outlined in the previous four paragraphs will influence the prospects for growth in the immediate future.

### **1.1.2 Unemployment rate and downward trend**

The real GDP growth record surveyed above has influenced unemployment. The 15+ LFS unemployment rate declined steadily after its 2014 peak (16.1 %), as did the 15-24 youth unemployment rate, which had reached its peak in 2013 (38.9 %). By 2018, the 15+ rate had fallen to 8.4 %, while the 15-24 rate had declined to 20.2 %. These downward trends continued into 2019, with more recent data being provisional.

Accurate data on registered unemployment are available monthly, so it is possible to compare the latest information for May 2019 with that for May 2018 and May figures in earlier years. The number of registered unemployed fell to 17 607 individuals in 2019, from 22 839 in 2018, and 44 201 in the May peak of 2013. This confirms the continuous and steady downward trend in unemployment.

The proportion of long-term unemployed in the total LFS unemployed also fell steadily, from its 2014 peak (47.7 %) during the four years 2015 to 2018 (45.6 %, 44.4 %, 40.6 %, and 31.7 % respectively). However, it remains substantially higher than its pre-2008 average of 22.6 %.

It is not possible to judge accurately whether and when the downward trend in LFS unemployment can fall to the 4.5 % average of the nine pre-2008 years, signifying a return to full employment. Nor is it clear whether and when the number of long-term unemployed can fall to approximately one-fifth of the total LFS unemployed, as was the case in the pre-2008 period. The impact of changes to social protection, such as the introduction of the GMI scheme in 2014, are difficult to predict. The GMI can be held at the same time as the unemployment insurance (UI) benefit. The former has no automatic expiry date, while the latter can only be received for six months. In addition, the GMI can include not just the basic income allowance but other supplements, such as a rent allowance. It can, therefore, be said that the GMI has, in effect, extended the duration and generosity of UI, without changing the basic unemployment benefit level. It has also rendered overall support dependent on household circumstances (e.g. its size, age composition, incomes earned, property, etc.), rather than previous employment contributions, but it has also institutionalised the understanding that social support for those able to work is conditional on efforts to obtain employment (GMI, Phase III). To that end, Public Employment Services have been strengthened.

### **1.2 Undeclared work, informal employment and envelope wages**

Undeclared work is an important aspect in discussions of the minimum wage and its economic effects. The larger this set of activities, the more likely it is that minimum wage policies will not be adhered to. By the very nature of undeclared work, it is difficult to categorise and quantify. The numbers below are extremely rough estimates.

There appear to be three important types of undeclared work in Cyprus. (i) Work by illegal immigrants and refugee claimants from third countries (who are only supposed to work under very restricted circumstances); they could number around 40 000, or roughly 10 % of the number of persons employed, and are paid through envelope wages. (ii) Underreported legal work by self-employed Cypriot and other EU nationals, who number about 50 000, or roughly 12.5 % of the employed. The self-employed include not only tradesmen but also professionals such as lawyers, doctors, private tutors and others. Pashardes and Polycarpou (2008) conclude that underreporting is of the order of 6.7 % to 8.1 % of GDP. (iii) Undeclared work may also include paid legal work, sometimes by second-job holders, some of whom hold additional jobs in violation of their main contracts. A variety of payment schemes may be in force, including envelope wages and, by definition, such work does not involve the payment of contributions to social security protection. This undeclared work would result in increased household income and is also captured by the methodology used in Pashardes and Polycarpou (2008). Abuses of unemployment insurance, the GMI scheme, and other

social safety net programmes, as well as barter activities, may also exist, but no data or studies of these are available for Cyprus. Assuming that category (i) contributes to GDP in proportion to employment (i.e. around 10 %), adding the Pashardes and Polycarpou (2008) estimate for categories (ii) and (iii), and making some allowance for possible abuses of the social safety net and barter, undeclared work could now be of the order of 20 % of GDP.<sup>2</sup>

## **2 Current structures and mechanisms for setting the minimum wage in Cyprus**

### **2.1 Formal legal aspects of minimum wage setting**

The Industrial Relations Code of 1977 adopted the main International Labour Organisation conventions and underpins collective bargaining in Cyprus. Remuneration and other employment issues in the private, semi-private, and local authority sectors are set through collective bargaining between employer and worker organisations,<sup>3</sup> mainly at the industry but also at the enterprise level (e.g. individual banks). Wages in the public sector are set by law, following consultations between the unions and the government. While collective bargaining does not lead to legally binding agreements, they are generally complied with – many deviations from agreed terms were induced by the Cyprus crisis and unions have been keen to re-establish the primacy of collective bargaining. Employment protection legislation complements collective bargaining agreements and may ensure that, in the case of private contracts that comply with collective bargaining terms, these have legal standing. It should be noted that sectoral collective bargaining agreements specify so-called 'indicative minimum starting wages' for a very detailed list of (about 180) occupations. Table 2 in Section 4.2 summarises these minima.

The idea in the process currently under discussion, is to make the minimum wage apply to more occupations. These are likely to be occupations requiring lower skills, in the left tail of the wage distribution.

In the case of occupations, where workers are not unionised, legislation (following tripartite consultation) governs the minimum wage, hours of work and annual leave for workers. As of the time of writing, the Ministry of Labour, Welfare and Social Insurance (MLWSI) describes the current terms and coverage of the relevant legislation on its webpage.<sup>4</sup>

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<sup>2</sup> An estimate that may not include category (i), because it may be focussed on legal undeclared work, is contained in European Commission (2019): "According to the data provided by Cyprus for the Employment Committee self-assessment, the proportion of undeclared work decreased from 23 % in 2013 to 15 % in 2017."

<sup>3</sup> Two employer organisations represent a large number of firms, which employ about 62 % of the workforce. Seven large and a number of smaller unions represent workers with a coverage of about 45 %. See European Commission (2016).

<sup>4</sup> "The Minimum Wage Order of 2012...is applicable for...shop assistants, clerks, child-care workers (assistant baby and child minders), [and] personal care workers (nursing assistants). Furthermore, the Order provides for a minimum hourly rate of pay for security guards, and cleaners of business/corporate premises.

The minimum monthly wage upon recruitment was revised to EUR 870, while the minimum monthly wage for employees who have completed a six-month period of employment at the same employer was revised to EUR 924.

The minimum wage for security guards was revised to an hourly rate of EUR 4.90 and upon completion of a six-month period of employment at the same employer is increased to EUR 5.20. The hourly rate of pay for newly recruited cleaners is EUR 4.55 and upon completing six months of employment at the same employer is increased to EUR 4.84.

It should be noted that the normal working hours of shop assistants...must not exceed 38 hours weekly and 8 hours daily, whilst for clerks the working hours should not exceed 44 hours in total per week (including any overtime) or 8 hours daily (normal working hours are usually 38 to 40 hours based on normal practice and agreement with each employer." MLWSI (2012).

Six months after their application, asylum seeker may work in restricted occupations, earning a minimum of EUR 425 per month. This provision is not part of the minimum wage legislation, but it derives from the separate arrangements for refugee status claimants.

It should be stressed that, in Cyprus, the term 'minimum wage' is understood to refer to the value of EUR 870 per month (or EUR 924 per month for tenure over six months), or to the hourly wage rates (see footnote 4), and *not* to the minima laid out in collective bargaining agreements as mentioned above (see also Table 2, Section 4.2). The former minimum wages are legally enforceable, while the latter are not, unless built into an explicit contract or characterised by continuous employment. Cleaners and security guards are paid by the hour. Hours worked can vary, producing monthly minimum wage incomes different from the EUR 870 or EUR 924 per month for other minimum wage cases.

## 2.2 Approach to setting the minimum wage and mechanisms in place

Collective bargaining at the national level does not exist in Cyprus. The Labour Advisory Board (a tripartite body consisting of representatives of three unions, two employer federations, and the government) and other *ad hoc* groups of social partners deal with issues of general interest. The Board is likely to be consulted in the event that changes in the minimum wage rate architecture are considered.

The minimum wage of EUR 870 per month (or EUR 924 per month after six months) and the monthly minima have not been changed since 2012. At that time, the Cyprus crisis brought substantial wage cuts in the private sector and workers covered by the minimum wage and still employed did well relative to other private sector colleagues. In the public and semi-public sectors, the lowest-paid were largely protected from wage cuts, though they were subject to tax-like charges that reduced their net pay. The MoU did not require any adjustments to the minimum wage structure.

The Minimum Wage Law of November 20, 1941, sets the decisional structures for determining the level of the minimum wage in controlled occupations. Following social dialogue and a decision by the Council of Ministers, MLWSI issues a Decree specifying the level of the minimum wage.

## 2.3 The wage distribution in Cyprus

In a study of the minimum wage, examining the wage distribution in Cyprus is useful for at least two reasons: First, it indicates relevant quantities, such as the mean wage earned, its range, and standard deviation, for those covered by the minimum wage legislation and those who are not. Second, it makes it possible to see whether existing minimum wage legislation produces substantial enough spikes at the monthly income ranges that contain the levels specified by legislation; it also identifies the mass of observations in the left-hand tail of the distribution which is most likely to be affected by a national minimum wage.

These objectives may not be achieved cleanly for a number of reasons:

- The number of individuals subject to the minimum monthly wage rate is limited to a small number of occupations;
- Cleaners and security guards are paid by the hour, producing minimum wage incomes that could be in a wider range than in other controlled occupations that have a monthly minimum wage level;
- the legislation may not be adhered to;
- the minimum wage specified in the legislation may become a popular (focal) choice for a number of jobs that are *not* subject to the minimum wage legislation, generating observations near the categories where minimum wage entries are recorded (see Appendix tables);
- incomes may not be accurately reported and samples may not be representative, or large enough, unless administrative data are used; and

- even then, individuals who earn under EUR 19 500 per annum do not have to file a tax form so they might not be included in administrative data but may be present in the EU Surveys of Income and Living Conditions (EU SILC).

With these caveats in mind *and for illustrative purposes only*, micro data for individuals from the 2015, 2016 and 2017 EU SILC surveys were examined. Monthly incomes<sup>5</sup> are grouped into EUR 50 ranges between EUR 451 and EUR 1 800 and number-coded (Appendix Table A1) for ease of graphical presentation. For the three survey years, grouped to provide sufficient observations, there are 13 492 individual observations where the wage earned is stated and 12 873 observations where the occupation is also stated (see Table A2). This table also shows that monthly mean incomes are about EUR 1 500 in all three survey years. Occupation codes are available for nine 1-digit (Table A3) and a large number of 2-digit categories. Where two-digit, more detailed, occupational categories and codes approximate the intent of the minimum wage legislation better, these are used instead. Observations below EUR 451 per month, which contain those not in the labour force as well as really low-earners, are grouped because the intent is to focus on areas of the wage distribution that may contain the bulk of individuals earning the minimum wage.

Table A4 provides the frequency distribution for the 13 492 observations with wage known. Minimum wage jobs at EUR 870 and EUR 924 that pay a 13<sup>th</sup> salary should be in codes 10 and 11, while cleaners (under assumptions about the number of hours worked) should be in codes 8 to 10 and security guards in codes 9 to 12. Indeed, relatively high frequencies are observed in codes 8-12. Note that code 11 has an especially high frequency (2.88 %).<sup>6</sup> Tables A5 and A6 and Figure A1 present similar information for the 6 181 individuals (average income EUR 1 142 per month) who are in occupational categories likely to be subject to the current minimum wage. Especially high spikes are observed at codes 9 (3.3 %) and 11 (3.4 %). Tables A7 and A8 and Figure A2 deal with the sample of 6 692 individuals (average income EUR 2 030 per month) in occupations (e.g. professionals and managers) *not subject to the minimum wage*. Code 11 still has a relatively high frequency (2.67 %), perhaps because the tenured minimum wage with a 13<sup>th</sup> salary becomes a focal value even in the uncontrolled sector. Figure A1 containing minimum wage cases shows higher spikes than Figure A2 for the uncontrolled occupations in all the relevant minimum wage codes (8 to 12).

These results suggest that there is a discernible concentration of workers in occupations subject to the minimum wage, though it has to be said that the caveats noted above probably smooth out potential spikes at the relevant minimum wage codes 8 to 12. A number of the individuals earning below code 8 may represent cases of non-compliance, or part-timers, or persons with disabilities, or refugee claimants after six months from filing,<sup>7</sup> or persons working illegally. These are the individuals who are most likely to be affected by an extension of the minimum wage to the left tail of the wage distribution.

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<sup>5</sup> Income is the variable PY010, which contains a possible 13<sup>th</sup> salary. Income is divided by 13 to obtain monthly earnings. Thus, income codes 10 and 11, Table A1, should contain individuals earning EUR 870 and EUR 924 pm, respectively. Based on 40-44 hours per week and 4.2 weeks per month, cleaners are likely to be found in codes 8 to 10 and security guards in codes 9 to 12. In the event that an individual on the starting salary of EUR 870 does not earn a 13<sup>th</sup> salary, division by 13 would place him/her in code 9 (a value of EUR 803). Tenured individuals earning EUR 924, who do not actually earn a 13<sup>th</sup> salary, will be misclassified into code 10 (a value of EUR 853). Thus, categories 8 to 12 may all contain individuals on the minimum wage. Part-time workers have not been excluded. Of course, these categories may contain individuals not on the minimum wage.

<sup>6</sup> The high frequency of code 11 may also include individuals earning a focal income of 12 monthly salaries of EUR 1 000, whose income divided by 13 (a value of EUR 923) then falls into code 11. If actually earning a 13<sup>th</sup> salary, they should be in code 12.

<sup>7</sup> After this period, they are allowed to work in certain unskilled areas (agriculture, animal husbandry, fisheries, manufacturing, waste-management, wholesale trade and repairs and some other fields such as building and outdoor cleaning, distributors of advertising and informative material, and food delivery) and to earn a minimum wage of EUR 425 per month plus accommodation and food. In order to provide such employment to asylum seekers, employers must present and have approved a regular contract of employment to a District Labour Office.

## 2.4 Interaction with the Social Safety Net in Cyprus

Individuals who are employed and receive the minimum wage, or those on unemployment insurance who meet the GMI eligibility criteria, can all have their income supplemented. Indeed, if need and eligibility persists, GMI payments can continue without time limit, although adult recipients able to work must be willing to take up a job (see Christofides and Koutsampelas (2018) for details).

A single individual who meets the eligibility criteria would be entitled to a GMI of EUR 480 and this increases by EUR 240 per adult (spouse, or child over 14, with no number limit) and by EUR 144 for each child under 14 years of age (again, no number limit). Children to the age of 28 are considered part of the household. These amounts increase with supplements that cover other needs, e.g. rent. The amounts of income earned while on the GMI that can be retained without reducing the GMI entitlement are larger for the young than the old members of the household, making it relatively less attractive for the parents to seek work. As a result of these changes, overall unemployment spells may increase in length and the unemployment rate may not fall as quickly as it would have under the old system.

## 2.5 Minimum wage compliance

Government policy can be summed up in the sentence: "The Government has set the tackling of undeclared work among its major priorities" — Presidency Unit (2018, p. 36) The Department of Labour Relations, at MLWSI, has recently restructured its capacity to inspect business premises, with the view to ensuring that all relevant labour legislation, including the payment of the minimum wage, is adhered to.<sup>8</sup> Information on its activities and outcomes regarding *all* legislation, not just the minimum wage, is available in Table 1, sourced from MLWSI (2019).

The number of inspections generally exceeded the complaints received and was higher in 2018 (3 205) relative to 2015 (2 941). Most complaints came from non-Cypriots (EU and third country citizens), absolutely and relative to their employment — it is not clear if all complaints were about employers. In 2018, 278 cases were examined in court, and fines of EUR 181 195 were imposed. The fine per case heard was a EUR 652. If half the cases led to a fine, this number would be EUR 1 304. Such penalties are not sufficient to discourage the violation of laws, particularly when illegalities may have persisted over time. No details are provided on the distribution of these fines by type of violation.

Table 1. Statistics of Inspections held by the Department of Labour Relations 2015-2018

Activity	Year			
	2015	2016	2017	2018
<b>DLR Inspections</b>				
No. of Inspections	2 941	4 085	3 455	3 205
Total Complaints Submitted to the DLR	3 343	2 173	2 046	2 190
Cypriots	1 296	800	672	758
EU Citizens	1 159	779	697	752
Third Country Nationals	888	594	677	680

<sup>8</sup> "The main powers of an inspector under the laws within the jurisdiction of the Department of Labour Relations are summarized as follows:

He/she can enter, with or without notice, at any place of employment, any time of day or night, by showing his/her proof of identity. In case of residential premises, the entrance is allowed only with the owner's agreement.

- He/she can be accompanied by a police officer if he/she has reasonable cause to believe that he/she will be prevented from the execution of his/her duties or the exercise of his/her powers.
- He/she can be accompanied by any other person if he/she considers to be necessary.
- He/she can conduct audits, inspections, surveys, investigations and examinations that he/she considers necessary to verify the implementation of the legislation."

## 2.6 Impact of the current minimum wage policies on the economy and the labour market

New empirical findings, influential theoretical models, and reviews of policy developments in Germany, the UK, the US and other countries have breathed new life into minimum wage research.<sup>9</sup> Cahuc et al (2014), Brown and Hamermesh (2019), and Neumark (2018) review this material. Table 1 in Brown and Hamermesh (2019) summarises findings from a number of papers on teenagers and restaurant workers, who are frequently the subject of minimum wage research: It shows that an increase in the minimum wage of 1 % will increase wages by about 0.2 which is statistically significant, and reduce employment (in all but one study) by an amount between -0.013 and -0.173 which is not, however, always significant. Neumark (2018, p. 35) concludes that "[...] it is indisputable that there *is* a body of evidence pointing to job losses from higher minimum wages". We return to the issue of the minimum wage as social policy below. These papers stress that less is known about (i) the *introduction* of a minimum wage, (ii) *large* increases in the minimum wage, and (iii) its application to individuals *other than low-paid workers* such as teenagers and restaurant workers. These issues are important in the Cyprus context.

Focussing on the effects of the minimum wage in Cyprus, only one study appears to exist, viz. the PhD Thesis by Mitsis (2013) and a paper published from it — Mitsis (2015). The latter, studies the dynamic effects of the minimum wage on total employment in a time series, VAR, model, where employment and the minimum wage are endogenous. This study identifies a negative relationship between the minimum wage and employment and suggests that "... the minimum wage policy in Cyprus creates large disemployment effects [...]" (p.19/42). In chapter 3 of his thesis, Mitsis (2013) examines the effects of the minimum wage using micro data from four Household Budget Surveys conducted over the period 1990-2009. Individuals' wages and the probability of employment are examined in separate equations. Looking at the category of all workers earning within 25 % of the minimum wage, he finds that a 1 % increase in the minimum wage will lead to a 0.9 % increase in the wages of individuals in both the covered and the uncovered private sectors (Table 3.3, p. 82). From the employment Probit equation, he concludes that a 1 % increase in the minimum wage will modify the probability of employment by about -0.712 %, an effect significant only at the 10 % level. Therefore, a 10 % increase in the minimum wage would reduce the probability of employment by 7.12 percentage points. More negative and significant effects are reported for the uncontrolled sector (Table 3.4, p. 84). These negative employment results, which are larger than those in Brown and Hamermesh (2019, Table 1), suggest that care should be exercised in revising the minimum wage if reductions in hours and employment are to be avoided. The European Pillar of Social Rights asks that minimum wage setting should be mindful of possible adverse employment and competitiveness effects.

## 3 Future policy directions

### 3.1 What are the origins and nature of a national minimum wage plan?

Though discussions on extending the minimum wage to the Hotel sector are at a very advanced stage, there is no concrete plan publicised for this, or any other, sectors. Instead, MLWSI wishes to explore (i) the implications of broadening the coverage of the minimum wage and (ii) possible architectures for this undertaking. Indeed, this may be the purpose of this Peer Review, to help MLWSI in its deliberations.

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<sup>9</sup> The empirical work of (i) Card (1992) in the early 1990s, culminating in Card and Krueger (1995), (ii) the theoretical models of Manning (1995, 2005) along with papers in the search and matching literature, and (iii) assessments of policy, such as those of Brewer et al (2019) and the Low Pay Commission (2019) for the UK, Gautier et al (2019) for France, Harasztosi and Lindner (2019) for Hungary, and Schmitz (2019) and Caliendo et al (2018) for Germany, typify empirical, theoretical and policy research on the minimum wage respectively.

Unions have, for some time, sought to upgrade the legal standing of collective bargaining agreements to legally enforceable contracts. An intermediate objective has been the legal enforceability of at least some of the provisions that are included in them (e.g. the indicative starting salaries). Employers have opposed this evolutionary direction, arguing that more constraints would decrease business effectiveness and viability. The government's political preferences and its position at the table change over time, altering the direction and momentum of industrial relations reforms. During the period 2008-2015, for example, gains were made by unions in terms of (i) their jurisdictional rights and the power of their representatives to enter the workplace, (ii) the procedures for trade union recognition by employers, and (iii) the legislative recognition of the 5-day week, certain holidays, and the establishment of a provident fund.<sup>10</sup>

The Cyprus crisis brought a substantial decline in the power of unions, some collective bargaining agreements were not honoured, and union density and coverage declined to approximately 45 % from about 60% some time ago. Given the extent to which unions are part of the Cypriot political landscape, however, they have re-asserted themselves, seeking to re-establish the primacy of tripartite mechanisms and to recoup income losses incurred during the crisis. Some notable tripartite steps were taken with the establishment of a new Cost of Living Allowance formula and criteria for wage increases in the public and semi-public sectors.

In the context of a presidential system and a government that, since 2013, has not had a clear majority in the legislature, the current president's 2017 election programme for the 2018 election included the statement that 'Once conditions of full employment are achieved, a dialogue will begin for the adoption of the national minimum wage in all occupations' (author's translation from Greek). The 2017 European Pillar of Social Rights, signed by Cyprus, also mandated consideration of a national minimum wage. A number of issues were not spelled out in the President's programme. The definition of full employment was not made clear but subsequent statements suggest a period when the LFS unemployment rate falls below 5 %, as was the case before the 2008 crisis. In addition, the term 'the national minimum wage' suggests a single number or, at the very least, a formula. The issue of how the minimum wage would be revised to reflect economic conditions (booms, slumps, and crises) was not addressed either. These are all points on which advice and comments are sought during this Peer Review.

### **3.2 Aims and envisaged outcomes of a national minimum wage**

These have not been stated but, beyond political considerations, one objective may be the reduction of inequality.<sup>11</sup> Table A4 suggests that the cumulative frequency of incomes below the first income level where individuals covered by the minimum wage might be found (at code 8, but above code 1 which includes zero earnings, see Table A1), is 12.31 % or 1 661 individuals. *More information on who these individuals are would be useful in considering the need for redistribution.*<sup>12</sup> Are they (i) earners in households struggling to make ends meet and needing more income, (ii) cases of minimum wage non-compliance that should be vindicated, (iii) part-timers seeking full-time employment who may not benefit from extensions of the minimum wage under adverse employment effects, (iv) part-timers happy with the degree of their labour market involvement who would not ask for further support, (v) persons with disabilities and refugee claimants after six months of filing their application who are covered by targeted social safety net programmes, (vi) retired individuals who may be only

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<sup>10</sup> Laws N.10((III)/2012, N. 55(I)/2012, and N. 143(I)/2015 respectively.

<sup>11</sup> Commenting on the fact that the wage effect of an increase in the minimum wage is often larger than the employment one, implying an increase in the wage bill as the minimum wage rises, Brown and Hamermesh (2019) quote Freeman (1996, p. 639) who described the minimum wage as "...a 'risky' but potentially 'profitable' investment in redistribution".

<sup>12</sup> The GMI for a single individual is EUR 480 per month and that for a couple is EUR 720 pm. Since GMI incomes are meant to reflect basic needs, the initial minimum wage of EUR 870 per month is substantially above the basic needs for a couple.

marginally attached to the labour force but have welcomed a small involvement in the labour market, (vii) teenagers supplementing their pocket money, or (viii) illegal immigrants and asylum seekers who work before the six-month eligibility period, breaking the rules, for whom the state may not feel the same degree of responsibility?

Notwithstanding the wit in the quote of footnote 11, the minimum wage may not be the best instrument for redistribution. As the minimum wage increases, the group of low paid workers may gain or lose income, depending on how employment and wages respond to the increase in the minimum wage. The estimates quoted above from Brown and Hamermesh (2019, Table 1) for the employment response of a minimum wage increase are so varied as to provide little guidance for policy. Only if the employment response is lower than the wage response to a minimum wage increase would the income of those subject to the minimum wage go up as the minimum wage increases. A fuller quote from Freeman (1996, p. 648) provides a more complete assessment of his views: "A minimum wage is not a panacea to poverty and low wages. It does not, in general, increase national output or the rate of growth of productivity. It redistributes income. It can improve the well-being of some low-wage workers and limit the tide of rising earnings inequality. [...] As with other redistributive interventions, however, the minimum wage carries with it some risks of inefficiency losses and may not always help those that it is intended to help. The higher the level of the minimum, the greater is the potential redistributive benefit, but also the greater the risk of job loss." Freeman (1996) stresses that the usefulness of the minimum wage as an instrument for redistribution depends on the provisions of the social safety net in a country and, in the case of Cyprus, the new GMI, though new and in need of some fine-tuning, has met the redistribution role effectively.

Other objectives of extending the minimum wage may be that this would force employers to pay clearly defined wages and social safety net contributions, would deter those of them (if any) who may be taking advantage of the GMI to set wages low enough that the GMI will supplement incomes, would provide incentives for GMI recipients to work, would provide a 'level playing field' among employers competing for labour, and would reduce undeclared work. This last objective would require devoting more resources to the labour inspectorate and embarking on a role of the state that may be costly or even objectionable to employers and perhaps society at large. Without strict enforcement and, particularly if the minimum wage is set at a very high level, the incidence of undeclared work may actually *increase*.

### **3.3 Next steps for the implementation of a statutory minimum wage**

The MLWSI, in collaboration with the International Labour Organisation, are currently conducting a qualitative and quantitative impact assessment on the way the national minimum wage will be introduced. A histogram similar to those found in the Appendix Figures A1 and A2 but based on only one EU SILC survey, made available by MLWSI, and an associated probability density function, show spikes which could be attributed to the minimum wage. There is also a large spike at a low wage around EUR 400 per month which may reflect cleaners working on a part-time basis. More results will be available by the time of the Peer Review.

Study of available administrative data could resolve many of the issues raised above (e.g. the composition of the left tail in the wage distribution) and should be carried out before any minimum wage proposals are finalised. The singularity of the minimum wage (a single number or several minimum wages), its level(s), and its flexibility over time need to be determined. The definition of full employment needs to be clarified. The likely winners and losers from redistributions resulting from extending the minimum wage coverage should be determined. With the latter in mind, thought should be given to whether redistribution is best achieved through the minimum wage, through a reformed and sustainable GMI, and/or through programmes such as now exist for special groups, such as persons with disabilities, and asylum seekers.



## **4 Opportunities and challenges of the introduction of a general statutory minimum wage**

### **4.1 Potential impact on the covered sectors of Cypriot economy**

The classical analysis of a minimum wage and its effects on the covered sector are that, if it is 'effective', i.e. if it is set above the market-clearing level of wages, then it may reduce the use of hours and/or the number of workers employed. This *will* happen if the demand for legal labour has *any* tendency to decline as wages rise.<sup>13</sup> An important point is that the total earnings of all those subject to the minimum wage *may actually decline* if the reduction in hours/employment, following an increase in the minimum wage, is relatively large (an elastic demand). It is, therefore, possible that, although the motive for imposing a minimum wage may be to redistribute income from customers (who may have to pay higher product prices) and from firms (whose profits may decline), to workers, this may not occur. In fact, the total earnings of labour could decline.

This classical analysis, which has been drilled into all economists, has been shaken but not shed. The empirical work of Card and others has shown that, under certain conditions and for certain populations of low-paid workers, modest increases in the minimum wage may even increase employment. The work of Manning, but also that of search and matching researchers, has provided theoretical underpinnings in this direction: For instance, when a monopsonist – an only buyer – hires labour paying a wage rate below the competitive one, a minimum wage above this wage but below the competitive one will increase employment. Despite this nuancing of the classical position about the effects of the minimum wage, surveys of a large number of papers, such as the afore-mentioned papers by Brown and Hamermesh (2019) and Neumark (2018), generally report negative employment effects which are sometimes statistically significant. These studies typically refer to low-wage sectors.

### **4.2 Sectors not covered by collective bargaining, emerging sectors and platform workers**

The minimum wage may have effects even in uncovered sectors, where bargaining over wages may be affected by the presence of an 'outside option' such as the minimum wage. This is particularly relevant for Cyprus, where the minimum wage holds only for a limited number of occupations. As has been noted, the only study for Cyprus (Mitsis, 2013) finds that, as the minimum wage rose over time, it had a statistically significant, deleterious, effect on employment, *particularly* in the uncovered private sector.

It has also been noted that, in the uncovered sector, collective bargaining agreements specify indicative starting salaries for a large number of occupations. Table 2 gives a summary of these and an impression of the range of the minima agreed. Collective bargaining agreements have no legal standing and so employers may not abide by them. However, they often do and, if workers are hired and remain employed, employment protection legislation offers its own shield to the workers. As was noted above, unions are pressing for legal recognition of collective bargaining agreements in their entirety or, at the very least, of particular terms such as the indicative starting salaries by occupation. This would clearly strengthen their hand.

It is important to take note of the levels of the starting salaries in Table 2. In hotels, assistant waiters would start at EUR 695 per month while a head cook would start at EUR 1 991 per month. The former is EUR 175 per month lower than the starting minimum wage of EUR 870 per month, while the latter is more than two times the

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<sup>13</sup> The reduction in hours and/or the number of employees need not affect output if (i) capital can be used instead of labour, (ii) if contractual arrangements which are not subject to the minimum wage can be resorted to, (iii) if the duties of regular employees can be modified to include some tasks subject to the minimum wage (e.g. security), or (iv) if undeclared work is available and can be safely resorted to. All these possibilities could lead to reductions in hours/employment as the minimum wage increases or has extended coverage, implying a negative employment response (elasticity) with respect to increases in the minimum wage. If this is negative enough, the total earnings of labour can decline.

minimum wage of EUR 924 per month for someone in the covered sector with six month's tenure. Across sectors, the starting wage for a kitchen assistant is EUR 669 per month, while a general duty construction worker could start at EUR 1 502 per month. It should be noted that in some sectors, such as Agriculture/Animal Husbandry, Hotels, Hospitality, and particularly domestic service, employers may provide food and accommodation, making the salaries in Table 2 lower levels of the total rewards.

Table 2. Indicative starting salaries in sectoral collective bargaining agreements<sup>1,2</sup> (EUR per month, includes Cost of Living Allowance)

Sector	Lowest Level/Highest Level	Lowest Paid/Highest Paid
Construction	General duty/Skilled	1 502/1 777
Brick Factories	Assistants/Skilled	1 489/1 700
Woodworking	Apprentices aged 16+/Skilled Sculptor	1 011/1 550
Metal Works	Unskilled/Specialised	1 308/1 534
Imp. Mech., Vehicles	Apprentice "A"/Specialised	1 203/1 880
Electrical Installations	Newly hired 16+/University Graduates	1 213/1 611
Clinics	Assistants/Nurse Level 1	897/1 205
Old Age Homes	Carer/Nurse	1 080/1 080
Agriculture/Animal Husbandry	Unskilled/Skilled	455/767
Printing	General duties/Printers	1 146/1 370
Hotels	Assistant Waiter/Head Cook	695/1 991
Hospitality	Kitchen Assistant/Chef	669/1 598

Source: Ministry of Labour, Welfare, and Social Insurance (April, 2019)

Notes:

1. Figures do not include the latest, small, amount of COLA. Sectoral agreements may include other employment terms such as

(i) hours of work (mostly 38 per week except in Agriculture; Animal Husbandry and Hospitality, where it is 40)

(ii) whether a 13<sup>th</sup> month salary is offered

(iii) number of working days per week (5 to 6), and

(iv) the number of recognised public holidays.

2. Over 180 categories, often grouped, are distinguished.

### 4.3 The minimum wage in the context of the wage distribution

These comparisons show that setting a *single*, 'national', minimum wage would be 'ineffective' in high-paying areas of the labour market, but 'effective' and possibly disruptive in low-skill sectors. For example, extending the current minimum wage of EUR 870 per month to all occupations *immediately* would mean that the minimum wage would be 'ineffective' and meaningless in the Construction sector, where the starting salary for general duty workers is EUR 1 502 per month. On the other hand, Hospitality establishments would have to pay assistant waiters EUR 870 per month instead of EUR 669 per month, a cost increase that might be hard to absorb for some of them. The

problem could be worse in Agriculture/Animal husbandry, where the unskilled indicative starting wage (excluding payments in kind) is EUR 455 per month. A single 'national minimum wage' does not appear to be practical *unless it is set at a relatively modest level*, perhaps around the current minimum wage. In Table A4, using the current minimum wage would affect at least 12.31 % or 1 661 individuals of the EU SILC sample (see Annex, table A.4). It is important to know who these individuals are and whether they are covered by the GMI or other social safety net programmes. If so, a possible need for redistribution through the minimum wage instrument is muted. Persons with disabilities may be better served by programmes that specifically cater to their needs; caring for registered asylum seekers (who can work legally) is subject to international conventions and geopolitics which transcend the Cypriot labour market.

A very high national minimum wage would clearly disrupt the labour market in a number of occupations. Given that, would a *collection of minimum wages* (a multiple national minimum wage) make sense? Brown and Hamermesh (2019, p. 19) suggest that "Whatever the right level of the minimum wage, it ought to vary with local wages [...]" and this may apply to occupations as well as regions. Could the negotiated minimum wages by occupation summarised in Table 2 above serve some role? We consider the arguments in Section 4.4.

#### **4.4 Multiple national minimum wages such as those in collective bargaining agreements**

An approach to thinking about multiple national minimum wages might consist of enhancing the current minimum wage with the indicative starting salaries in collective bargaining agreements, perhaps grouped into similarly paid occupations. An advantage of this system would be that, if high levels of minimum wages for certain occupations were ever contemplated, perhaps by some of the social partners and politicians, previously agreed occupational minima would impose a market discipline that might prevent adverse hour and employment effects. As well, employers in a given occupation would compete on a 'level playing field' in the labour market and pay similar social security contributions. There are disadvantages: (i) multiple national minimum wage rates might be expected to be legally binding. This would appeal to the unions, which would gain the legal enforceability of this particular provision of collective bargaining agreements, increasing their power, but it could be opposed by employers who are currently not bound by the indicative minima and would consider their bargaining power diminished. (ii) The logic of the current minimum wage system is that unions provide a balance to whatever power employers may have, making regulation of occupational incomes unnecessary. (iii) If the indicative minima become legally binding, the state would have to enforce them, requiring a much larger, economy-wide, inspectorate; this process could become costly or even abhorrent. (iv) Finally, adopting a multiple national minimum wage system based on the indicative minima is so close to the current system (except for the issue of its legal enforceability) that the whole exercise might be of doubtful added value. Indeed, what would be the purpose of *imposing* the freely agreed occupational minima, especially in high-paying occupations? That would also entail an inherent contradiction (negotiate first and then legislate!) and it could make the relative occupational wage structure too rigid. These advantages and disadvantages need to be taken into account going forward.

Whatever the merits of broadening the concept of the national minimum wage to include the indicative minima of any of the occupations with minima in excess of EUR 870 per month, the problems above are substantial and could become multiplied at the political level if the House of Representatives has to approve a new system. It may be wiser to stick to the current minimum wage benchmark, but raise salaries to it for any occupational groups that, by the implementation date, will have total (including payments in kind) starting salaries below EUR 870 per month (or EUR 924 per month for workers with six-month experience, or the appropriate equivalent for hourly occupations such as cleaners and security guards). The starting wage of EUR 455 per month in Agriculture/Animal husbandry is low enough to suggest that some special

arrangements may be in place and these could require special recognition and treatment. This approach is spelled out below, using only the EUR 870 per month example for ease of presentation.

#### **4.5 A single national minimum wage and its impact on collective bargaining, workers and employers**

In view of these concerns, a single national minimum wage, adopted in the future at a time when the lowest indicative starting salaries in collective bargaining agreements have approached the starting minimum wage of EUR 870 per month, may be worth considering.

Such a system could be described as a *national* minimum wage because it would specify a monthly wage below which monthly, full-time, salaries should not, in general, be paid in any occupation. It would have some advantages. To begin with, the skill levels of individuals in the current list of occupations covered by the minimum wage would be comparable to those in a broader list of occupations which could include Assistant Waiters, Kitchen Assistants, and others. A national minimum wage based, for example, on EUR 870 per month would not be so high as to trigger severe adverse hour and employment effects in the left tail of the wage distribution and it would leave the right tail, where it would be 'ineffective', unaffected. It would be high enough to provide work incentives for individuals on the GMI, it could be adjusted as needed (up, or down in a very severe crisis) using current procedures, and it would reduce the implicit use of the GMI by employers (if any) who may currently be paying low wages, knowing that the GMI will supplement the incomes of their employees.

The system should be tailored so as to exclude certain categories of workers who may fall under targeted social safety net programmes (e.g. programmes for persons with disabilities and refugee claimants). For these individuals, special considerations apply (individualised disability support, and international conventions and geopolitics respectively) and they cannot be categorised into a single occupation. Non-wage contributions by employers (e.g. food and accommodation) should, where they occur, be included in the calculations. As in the UK, there may be a need to relate minimum wages to age.

There would be no need to change the tripartite system of consultations, the current system of collective bargaining, and the legal status of the agreements reached. The monitoring requirements for the government would increase somewhat but not nearly as much as in a multiple national minimum wage system which imposes a minimum wage in all, or many, occupations.

While effecting some degree of redistribution in the left tail of the wage distribution, the impact of such a national minimum wage on workers and employers would be relatively small: Workers who remain employed would experience an increase in their income, employment losses should not be large and, if they occur, they could be provided for through the GMI. Employers (if any) who previously relied on the GMI to supplement the wages of their workers would experience an increase in their costs but, it is hoped, only marginally so. If the current minima of EUR 870 and EUR 924 were chosen as the national minimum wage levels, effects on *non-covered* workers and employers (through a change in their 'outside options') should be minor.

The timing of the introduction of such a scheme might be planned for conditions of full employment, i.e. when the LFS 15+ unemployment rate has fallen to its pre-2008 average, below 5 %. This would also provide a time window to plan and effect the adoption of a national minimum wage.

#### **4.6 How might a minimum wage system affect the existing social safety net and the GMI in particular?**

Christofides and Koutsampelas (2018) considered most aspects of the social safety net and the GMI in particular. They made a number of suggestions for reviewing important

features of the GMI. They suggest reviewing (i) the influence of family size and structure on the generosity of the system, (ii) the incentives to find work for young (they are exceptionally strong) and older members of a household (they are very weak), (iii) the age limits used in the member-of-household definition (it is currently 28 years of age), (iv) abrupt changes in the marginal 'tax' or claw-back rates applied to work income, and (v) the dovetailing between unemployment insurance and the GMI. The GMI is an important social safety net achievement and what is needed is monitoring and learning from the administrative data that have accumulated since its introduction in 2014.

The suggested national minimum wage may have a small impact on the government's fiscal position: On the one hand, it would mean that the income of some workers will increase, possibly reducing their reliance on the GMI and saving government resources. On the other hand, some workers in the left tail of the wage distribution may lose hours of work or jobs, increasing their use of unemployment insurance and the GMI. The balance of these effects should be modest.

The European Pillar of Social Rights (European Commission 2017) suggests that "Adequate minimum wages shall be ensured, in a way that provide for the satisfaction of the needs of the worker and his / her family in the light of national economic and social conditions, whilst safeguarding access to employment and incentives to seek work. In-work poverty shall be prevented." The approach in section 4.5 above balances the objectives of "needs", "access to employment", and "incentives to seek work" in a manner which is consistent with the pragmatic approach in this quotation.

## **5 Key issues going forward**

The election programme of the current President included the suggestion that, once full employment returns, a national minimum wage should be considered, with the view to applying it to all occupations. Whether a single number, how it would be set and revised, how its level would relate to the GMI provisions, and how full employment would be defined was left to be determined at a later stage.

This paper raises a number of issues that need to be considered and, hopefully, resolved as and if plans for a national minimum wage progress, namely:

- What should the aims of a national minimum wage system be?
- What are the advantages and disadvantages of a national minimum wage relative to these aims? Does it accomplish these aims with certainty?
- If such a system were to be introduced, when should that be relative to the state of the labour market? Should it be introduced during a slump or a boom?
- Should a national minimum wage be a single number or several minima for different occupations?
- If the latter, how many and how should they be determined?
- Can an extension of the current minimum wage system to low-wage occupations (say those earning below EUR 870 per month) serve the role of a national minimum wage?
- Should any exemptions to the coverage of the national minimum wage be made and which/why?
- Should age be a factor in setting the minimum wage?
- Can the aims of the national minimum wage be achieved by other means, what might these other instruments be, and what are their relative advantages and disadvantages?

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## Appendix

Table A1. Conversion of income ranges to graphing codes for Figures A1 and A2. (Codes 10 and 11 should contain the minimum wage individuals earning EUR 870 and EUR 924 per month, respectively)

Monthly Income Code	Gross Monthly Income Ranges
1	0-450
2	451-500
3	501-550
4	551-600
5	601-650
6	651-700
7	701-750
8	751-800
9	801-850
10	851-900
11	901-950
12	951-1 000
13	1 001-1 050
14	1 051-1 100
15	1 101-1 150
16	1 151-1 200
17	1 201-1 250
18	1 251-1 300
19	1 301-1 350
20	1 351-1 400
21	1 401-1 450
22	1 451-1 500
23	1 501-1 550
24	1 551-1 600
25	1 601-1 650
26	1 651-1 700
27	1 701-1 750
28	1 751-1 800
29	1 801+



Table A2. Sample summary statistics

	2015	2016	2017	2015-2017
Total Sample (individuals with wage info)	4 620	4 281	4 591	13 492
Those with wage and occupation info.	4 396	4 111	4 366	12 873
Mean of Gross Monthly Income	1 534.871	1 544.535	1 529.097	1 535.973
Standard Deviation	2 253.433	2 115.863	2 133.287	2 169.617

Source: EU SILC micro data from the survey years 2015, 2016 and 2017.

Table A3. Gross one-digit occupational categories (ISCO-88).

Occupation Code	Occupation Description
1	Legislators, Senior Officials & Managers
2	Professionals
3	Technicians & Associate Professionals
4	Clerks
5	Service Workers & Shop & Market Sales Workers
6	Skilled Agricultural & Fishery Workers
7	Craft & Related Trades Workers
8	Plant & Machine Operators & Assemblers
9	Elementary Occupations

Note: ISCO-88 is a method of classifying occupations, necessary to use given that the minimum wage is occupational in nature.

Table A4. All individuals for 2015-2017. Frequency data per income range

Income Code	Freq.	Percent	Cum.
1	2 769	20.52	20.52
2	305	2.26	22.78
3	257	1.9	24.69
4	235	1.74	26.43
5	268	1.99	28.42
6	276	2.05	30.46
7	320	2.37	32.83
8	266	1.97	34.81
9	342	2.53	37.34
10	318	2.36	39.7
11	389	2.88	42.58
12	283	2.1	44.68

Income Code	Freq.	Percent	Cum.
13	315	2.33	47.01
14	266	1.97	48.98
15	260	1.93	50.91
16	269	1.99	52.91
17	224	1.66	54.57
18	309	2.29	56.86
19	298	2.21	59.06
20	240	1.78	60.84
21	202	1.5	62.34
22	230	1.7	64.05
23	187	1.39	65.43
24	169	1.25	66.68
25	171	1.27	67.95
26	160	1.19	69.14
27	141	1.05	70.18
28	134	0.99	71.18
29	3 889	28.82	100
Total	13 492	100	

Note: The addition of the number of individuals in the Frequency column from code 2 until and including column 7 equals 1 661 individuals. Similarly, the percentages in this same range add up to 12.31, as in the text section 3.2 and 4.3.

Table A5. Occupations subject to the minimum wage (ISCO codes 32, 33, 4\*, 51, 52, 91). Summary statistics for individuals with known wage and occupation at the 1 or 2-digit level

Number of individuals	6 181
Gross Income Mean	1 141.837
Standard Deviation	896.6482

Table A6. Frequency per income range

Income Code	Freq.	Percent	Cum.
1	1 473	23.83	23.83
2	182	2.94	26.78
3	141	2.28	29.06
4	129	2.09	31.14
5	163	2.64	33.78
6	150	2.43	36.21

Income Code	Freq.	Percent	Cum.
7	182	2.94	39.15
8	145	2.35	41.5
9	204	3.3	44.8
10	177	2.86	47.66
11	210	3.4	51.06
12	170	2.75	53.81
13	164	2.65	56.46
14	138	2.23	58.7
15	140	2.27	60.96
16	146	2.36	63.32
17	123	1.99	65.31
18	170	2.75	68.06
19	170	2.75	70.81
20	114	1.84	72.66
21	94	1.52	74.18
22	89	1.44	75.62
23	82	1.33	76.95
24	80	1.29	78.24
25	83	1.34	79.58
26	72	1.16	80.75
27	49	0.79	81.54
28	64	1.04	82.58
29	1 077	17.42	100
Total	6 181	100	

Table A7. Occupations not subject to the minimum wage (i.e. other than ISCO 32, 33, 4\*, 51, 52, 91). Summary statistics for individuals with known wage and occupation at the 1 or 2-digit level

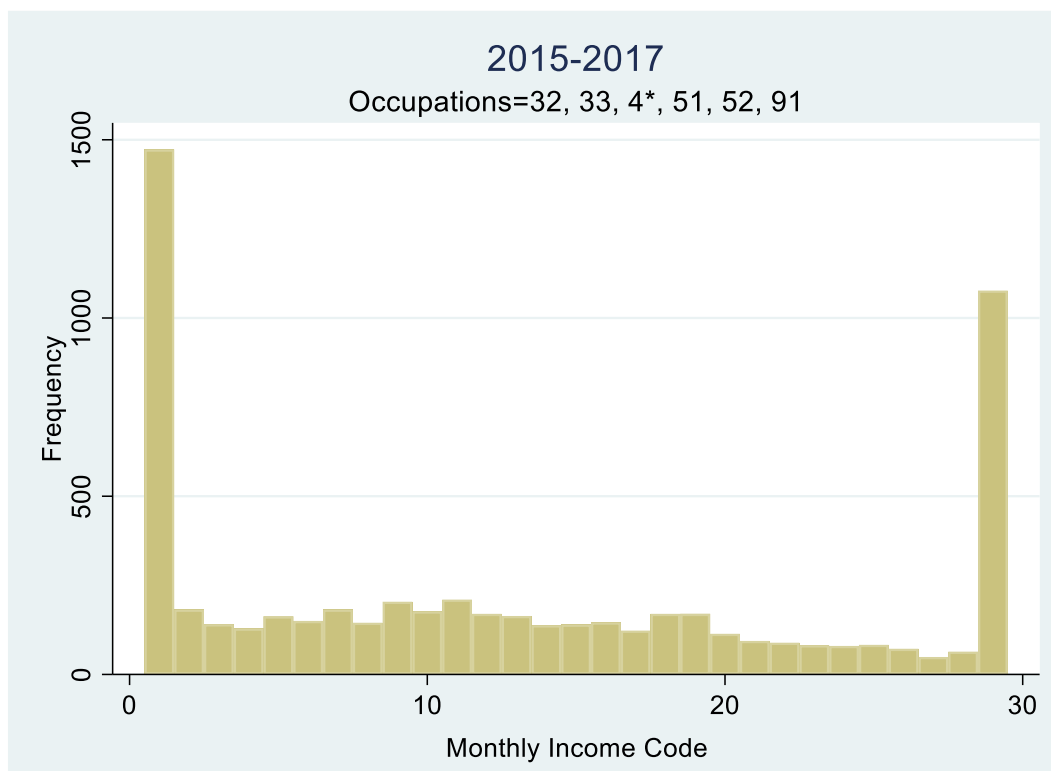
Number of individuals	6692
Gross Income Mean	2029.78
Standard Deviation	2859.719

Table A8. Frequency data per income range

Income Code	Freq.	Percent	Cum.
1	687	10.27	10.27
2	119	1.78	12.04

Income Code	Freq.	Percent	Cum.
3	114	1.7	13.75
4	105	1.57	15.32
5	104	1.55	16.87
6	126	1.88	18.75
7	138	2.06	20.82
8	121	1.81	22.62
9	138	2.06	24.69
10	141	2.11	26.79
11	179	2.67	29.47
12	113	1.69	31.16
13	151	2.26	33.41
14	127	1.9	35.31
15	120	1.79	37.1
16	123	1.84	38.94
17	101	1.51	40.45
18	139	2.08	42.53
19	128	1.91	44.44
20	126	1.88	46.32
21	108	1.61	47.94
22	141	2.11	50.04
23	105	1.57	51.61
24	89	1.33	52.94
25	88	1.32	54.26
26	88	1.32	55.57
27	91	1.36	56.93
28	70	1.05	57.98
29	2 812	42.02	100
Total	6 692	100	

Figure A1. Occupations likely to be subject to the minimum wage legislation



Source: Pooled EU SILC Surveys 2015-2017, micro data.

Figure A2. Occupations not likely to be subject to the minimum wage legislation



Source: Pooled EU SILC Surveys 2015-2017, micro data.

