Abstract

The socio-ecological transition will led to an overall change in the supply and demand of goods and services and therefore to a change in consumption as well as production structure at national level, but also to changes in the single sectors. It is expected that in particular three sectors will show a high dynamic caused by the demographic change: the health sector, the long-term care sector as well as change in demand and supply for goods and services for the elderly. This policy brief summarize the findings of Work package 12 of NEUJOBS project: “Health care, goods and services for an ageing population”. Main attention is related to current employment situation within these sectors and exploration of possible changes in employment structure across European countries in following 15 years.
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Introduction

All European countries are facing the same phenomenon: population ageing and changes in household and family structures. As the morbidity, functional impairments and mental illnesses are increasing with age a significant growth in the demand for health and long-term care services as well as for goods and services which are adapted to the need of the elderly are expected. Several studies carried out in the last two decades have focused almost on the impact of ageing populations on the sustainability of public finances. The NEUJOBS project aims to show the impact of socio-ecological transition on the employment in European countries. The health and long-term care sectors are important areas of the economy in all European countries showing a high dynamic in the past. In 2011 some 23 million persons were employed in health and social care, with approximately 5 million new jobs created in human health and social work, accounting for more than a third of the new jobs created in the EU between 2000 and 2011 (EC 2012). The health care workforce increased despite the overall trend of declining employment also during the economic crisis. Between 2008 and 2011 more than 1.5 million (net) new health care jobs were created. The share of health care expenditures in GDP was 10 % in 2011.

Additional, population ageing is expected to have significant effects on the consumption structure of the national economy as elderly households have specific requirements on goods and services as well as another consumption behaviour than younger households. The WP12 aims to show the impact of societal change on the employment in three fields of the economy: a) the acute health care market, b) the long-term care market and c) the ‘silver economy’. For each field detailed analyses are carried out showing the changes in demand and supply of workforce respectively the changes in the economic structure of employment. The analyses for the health and long-term care sector are carried out for the countries Denmark, Germany, Italy, Poland and Slovakia, the detailed analyses concerning the ‘silver economy’ for the countries Germany, Slovakia, Italy, Finland and the EU. This Policy Brief sums up the main findings and discusses relevant policy implications. For further information see the reports mentioned in the references list.

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Shortage of health care workforce is expected to increase in the studied countries except Poland

Current situation

In 2011 13.2 million were employed in acute health care activities in the EU27. In the five studied countries, health care is provided in hospitals, in offices of primary care physicians or specialist and in other facilities like therapeutically offices or rehabilitation institutions. However, the availability of (public financed) health care services and the division of tasks between institutional and ambulatory care and therefore the share of institutional and ambulatory employment depend on the country specific health care system. In the five studied countries has Slovakia the highest share of hospital and the lowest share of ambulatory care employment, while Denmark has the highest share of in medical and dental practices personnel.

In all countries is the health workforce characterized by high shares of female, elderly and part-time employment. A challenge is the high share of elderly physicians in medical and dental practices. In Italy, Denmark and Slovakia more than a quarter of practicing physicians is at least 55 years old. In Poland and Germany is the share only slightly lower. Thus, a high share of physicians will retire in the next 10 to 15 years and it is doubtful if they can be replaced by graduates or physicians from abroad entering the health workforce.

Already today, all studied countries reported some kind of health care workforce shortage, leading to unmet needs and long waiting times. In particular in Italy long waiting lists for diagnostic tests in public hospitals and ambulatories exist. But also in the other countries a shortage of physicians and nurses in some communities and for special treatments are reported. The emigration of health professionals exacerbates the situation in Slovakia and Poland. The expected higher share of retiring health professionals will strengthen the situation.

Future changes in employment depend on health care systems and the finances, but also on the changes in the number of people in need of medical treatments and doctors’ consultations as well as the changes in health workforce supply due to retiring, entrance of graduates and migration. To show the impact of demographic change on the health care workforce on the demand side a utilization approach and on the supply side a top down approach was applied.

Utilization of health care services

Detailed analyses of the utilization of hospital activities and ambulatory health care services in the five studied countries showed in general an increase in demand for health care services with age, but with significant differences across the different type of treatments. A strong relation could be seen for hospital treatments in all studied countries. For primary care mostly provided by general practitioners is the relation not as strong as for hospital care. As primary care physicians act as gatekeeper (except Germany) they are the first contact point for patients independently from the type of treatment needed (except emergency treatments in hospitals or ambulances). Thus, patients in all ages visit their ‘family doctor’. In the case of dental care which is to a
high share private financed increases the number of consultations per person up to the age-group 60 and declines afterwards.

**Increase in patients and demand for health workforce**

The steady state scenario using constant utilization rates as well as constant staff quotas shows the pure demographic effect on the demand for health care services and its workforce. In both demographic scenarios the size and age-structure of the population will change significantly in the five studied countries. In the tough scenario the population will decline in Germany, Poland, and Slovakia and is will grow in Denmark as well as Italy. In the friendly scenario the population will grow in the studied countries except Germany. In both demographic scenarios an ageing of the population in all countries is estimated resulting in a high share of elderly (65+) in 2025 (18-24%). The demographic change is estimated to have following effects on health care workforce demand:

A) Hospital care: The demand for hospital employment is estimated to increase significantly (9-10 % in the tough scenario and 15-17 % in the friendly scenario) in Denmark, Italy and Slovakia. Poland and Germany will have a lower increase in employment in both scenarios (2-3 % in the tough and 8-9 % in the friendly scenario). The demand for hospital workforce is dominated by the ageing process also in countries with a decline in population size.

b) Ambulatory care: In general, the increase for ambulatory health care workforce is lower than for hospital employment in all countries. In the tough scenario a decline in ambulatory health workforce is estimated in Germany and Poland. The decline in population size dominates over the ageing process in these countries. In Denmark, Italy and Slovakia a moderate increase in ambulatory health workforce demand is estimated. In the friendly scenario an increase in ambulatory health workforce demand is estimated ranging from 3 % in Germany to 12 % in Slovakia.

**Workforce need and supply**

The changes in health workforce demand can be compared with the results of the sectorial employment forecast based on the NEMESIS model (Boitier et al. 2013). In the tough scenario the estimated changes in health workforce supply will not meet the demand in the studied countries except Poland. In Poland an increase in employment of around 10 % is estimated, while the demand will be nearly constant. In particular in Italy the gap on the health care labour market is expected to widen: while the demand is expected to increase by 9 % the labour supply is estimated to decline significant (-18 %).

In the friendly scenario the increase in health workforce supply is only slightly lower than the increase in demand in Denmark, Germany and Slovakia. In Poland a dynamic development in health care employment is calculated which is significant higher than the increase in demand. In Italy a slightly decline in health workforce supply is estimated, but the demand is calculated to increase by some 16 %. Thus, also under the condition of the friendly scenario Italy will experience difficulties in providing the needed health care services without compromising their quality.
Policy recommendations

Population ageing has two effects on the health care labour market: on the one hand an increase in the demand in particular for hospital care services and its workforce, on the other hand a high share of physicians and other health care staff retiring. In particular in the tough scenario the gap in workforce demand and supply is expected to widen (except Poland). What measures may help to reduce the gap?

a) Recruitment and retention strategies: In view of the high share of elderly employment, in particular among practising physicians, the recruitment of health workforce from abroad may help to reduce the gap on the health care market. This requires the acceptance of qualifications and certificates received in foreign countries, and supporting measures concerning further training, the supply of language courses and employment options also for the partners.

b) Reorganisation of tasks between different health professionals (for example nurses and physicians).

c) Increase in productivity through new technologies.

d) In particular in hospitals more flexible working times, improvement of working conditions.

e) In ambulatory care measures supporting physicians to take over own offices in rural areas.

Societal change, care need and long-term care workforce

Long-term care workforce comprises informal and formal caregiver

Help and personal care to the elderly is predominantly a task of family members in almost all European countries. Spouses, daughters, daughters in law and other family members are the main caregivers. However, in the majority of European countries some kind of formal long-term care (LTC) is available, either as institutional care, as home care services and/or as cash benefits. The provided amount and basket of long-term care services depends strongly on the long-term care system, and differs widely across the Member States. Often, care giving tasks and services are split between the health care system and the social service system. Both, the amount of provided formal care services and the division of tasks influence the size and occupational structure of the long-term care workforce.

The five studied countries have different long-term care systems ranging from a comprehensive social assistance system in Denmark to a nearly non existing long-term care system in Poland. In general, in Poland and Slovakia the vast majority of care giving to the elderly is the responsibility of the family. Formal care giving is rare, and in Poland the available places in nursing homes are often privately financed. In Italy each municipality has his own LTC system with significant differences in the amount of provided services depending not at least on the financial situation of the municipality. The German LTC system provides services in kind or in cash only to people with at least substantial impairments in Activities of Daily Living as well as in
Instrumental Activities of Daily Living and requires in particular for institutional care high co-payments.

According to the national statistics in 2010 in the five studied countries around 4.5 million persons received (public financed) formal care, thereof 1.3 million in institutions, 1.5 million at home by ambulatory home care services, and 1.8 million receive cash benefits for organizing care at home (in Italy for compensation of dependency). Compared to the estimated number of dependent people in need of care of 14.3 million, only a part of dependent receive any type of formal care in kind or in cash. Thus, high shares of dependent people rely on informal care, private financed formal care, or receive no care.

Only in Germany a statistics on the employment in long-term care facilities exist. In the other studied countries the employment in long-term care can only be estimated. According to the information received from national statistics the employment in long-term care activities amounts to 1.5 million in the five studied countries; thereof 25,000 in Slovakia, 72,000 in Poland, 334,000 in Italy (only institutional care), 952,000 in Germany, and 140,000 in Denmark. The majority of employees are nurses, nursing assistants or personal care workers (social care workers). According to the Labour force survey in the five studied countries around 0.7 million were employed in nursing homes and 0.5 million in social work activities without accommodation for the elderly and disabled. This is only a raw indicator for the employment in activities for the elderly, because not all persons engaged in social work activities for the elderly are employed in long-term care activities, and otherwise also other social work activities can comprise long-term care personnel.

**High increase in dependent people expected**

Number of dependent people is expected to increase significantly in all studied countries. In 2025 the number of dependent people will amount to 15.6 million in the tough and 16.8 million in the friendly scenario in the five studied countries. That is an increase of 15-18% in the tough scenario and of around 32 % in the friendly scenario. To meet the growing need of care informal as well as formal care giving activities have to be expanded.

**Increase in informal caregiver aged 50+ providing regular personal care**

The future development of informal caregivers is influenced by the change in living arrangements which lead in general to a decline in the share of elderly households living with a partner or other persons in the same household. An exception is Slovakia with a decline in single person’s households. As informal caregiving is more likely inside the household, the decline will reduce the potential of informal caregivers inside the household.

Based on information from the SHARE survey the changes in informal carer aged 50+ are calculated using constant probability rates of being a caregiver by age-groups and gender, but taking into account the changes in living arrangements. The number of informal caregiver 50+ will increase significantly in all studied countries in both demographic scenarios. The highest increase in informal caregiver is expected for Italy (21% tough, 26 % friendly), the lowest for Poland by around 5 % (tough) and 11 %
(friendly scenario). The development of informal caregiver is in between these two countries in Denmark and Germany.

Slovakia is not included in the SHARE survey, thus the estimation of informal carer is based on the demographic development only. According to this estimation the number of informal (unpaid) caregiver will increase by around 20\% (tough) and 28\% (friendly).

**Gap on formal care market will widen**

The demographic development as well as the changes of available informal carer will have an impact on the required formal care and its workforce. The pure demographic effect on the number of people receiving (publicly financed or supported) formal long-term care services in institutions or at home and on the related workforce is calculated using constant utilization rates and staff ratios. No changes in the long-term care system or in the available care services are assumed. The demand for long-term care personnel is estimated to increase significantly in all studied countries and both demographic scenarios. In the tough scenario the increase in workforce demand ranges from 16\% in Poland and Italy to 22\% in Slovakia, and in the friendly scenario from 26\% in Italy to 38\% in Germany.

Although in Denmark, Poland, Slovakia and Germany (friendly) an increase in the workforce supply in residential care and social work is estimated the gap on the nursing and care market will widen. In Italy a decline in care workforce in both scenarios is expected, while the demand for formal workforce is estimated to increase in line with the development of dependent people by around 19\% (tough) and 31\% (friendly scenario). But also in the other studied countries shows the demand for care workforce a higher dynamic than the supply side.

**Policy recommendations**

The increasing need of care workers is a challenge for all studied countries. Currently a shortage of nursing and caring personnel is reported, and the recruitment strategies showed only low success in the past. Three fields of activity are discussed to meet the future care demand:

- a) Measures to increase the informal care potential
- b) Recruitment of long-term care workers from abroad
- c) Measures to increase the domestic long-term care workforce

Ad a) Informal caregivers are expected to remain the main care workforce also in the future. Several strategies are discussed to support informal caregivers and to encourage more people to take over informal care or to increase their caregiving engagement. The SHARE data indicates that there is a significant share of family caregivers who provide personal care, but not on a regular basis. Measures to encourage these caregivers to increase their caregiving activities may reduce the expected gap in nursing and care. Measures supporting informal carer are: care leave or financial support for family caregivers; measures for better reconciliation of care and employment like flexible working times or the availability of respite care and day care centres; measures helping informal care to deal with their care tasks like training,
counselling, coaching, or support from professional caregivers; the reduction of caregiving burdens through ICT, and the encouragement of males to be active in caregiving.

Ad b) In the last years some European countries like Italy, Germany or Denmark introduced active recruitment strategies for nursing personnel. Migrant care workers play a significant role in Italy, and to some extent also in Germany. The challenge is that a large proportion of migrant domestic workers or caretakers are irregularly employed. One measure to reduce irregular employment is the tax reduction for households employing caretakers for family members. However, the recruitment strategies have to be intensified in view of the future shortage of nursing personnel.

Ad c) Employment in long-term care is characterized by unfavourable working conditions and a low image of nursing professions. Although the improvement of working conditions has a high priority for the recruitments and retention strategy of nursing homes and home care services, no significant progress could be realized in the last years. Beside the often proposed increase in salaries and flexible working times, the introduction of ICT can help to reduce caregiving burden, and the reorganization of care tasks with more competences for nursing personnel may have a positive impact on the job satisfaction. To increase the image of care professionals public campaigns may help.

The future development of formal care workforce depends not at least on the financial resources of the communities who are responsible for social care provision and the national and regional politics on long-term care. To cope with the ageing population strict priority to measures supporting family caregiver and measures to provide formal care supplementary or complementary to family has to be giving by politicians.

Silver Economy

Evidence and analysis

Ageing is currently considered as a significant social and economic issue in Europe. The effects of ageing on the consumption structure will lead to structural economic challenges. Increase in the demand for some specific goods and services could be considered as an opportunity for some sectors or even small countries. We assume that almost all newly-created jobs will focus on the increased consumption of the elderly and its structure. We refer to this approach as the “Silver economy”. Its main idea is that supplying goods and services for the growing sector of elderly consumers has the potential to stimulate economic growth and create new jobs. “Silver consumption” is related to the consumption of households with a reference person over 60 years of age. It is assumed that both public and private expenditures will have significant effect on structure of the economy. In this part of paper, only effects of private consumption are considered. Despite that the most significant increase in demand is observed at sector

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1 This chapter refers to the findings of the NEUJOBS project published in Štefánik et al. (2013). Acknowledgment: Special thanks also go to Tomáš Domonkos (tomas.domonkos@savba.sk) and Ivan Lichner (Ivan.Lichner@savba.sk) for their valued contributions.
of health and social services. Public expenditure and the export potential to markets outside the EU were analysed in a very limited manner.

The complexity of the Silver economy lies in the fact that the elderly in Europe do not have identical consumption habits across the member states. Among the ageing population, there are many economic, social and cultural factors that influence consumption patterns. Generally, we can expect increase of silver demand in all member states, which will differ only in volume and structure. This may draw a promising picture for the “Silver economy” throughout the whole of Europe. Analysis covers two NEUJOBS demographic scenarios (friendly and tough). The behavioural changes of household consumption structure have not been considered.

**Increasing significance of the demand of households over 60**

In 2010, silver households with a reference person over 60 comprised roughly 28% of total households’ consumption. Considering the fact that silver households comprise an almost 36% share of the total number of households, we can see that lower incomes in retirement lead to a decreasing ability to consume. The spending structure varies by the different ages and levels of wealth in each country. In Slovakia, silver demand represents a relatively low share of total demand, standing just below 25%. On the contrary, a much higher share of more than 32% can be observed in Germany, which is already facing an ageing population. Despite this, according to the results of our estimations, we can expect an increased share in the analysed countries for both scenarios applied. The differences between the scenarios are rather minor. In the EU 27, the share of households with a reference person aged over 60 will increase from almost 36% in 2010 to more than 43% in 2030 (growth over 20%), significantly more than in younger one. Similarly, in the case of total household consumption, we can also expect an increase in the share of 60+ households to 32% in 2025, and 35% in 2030. The highest share is expected in Germany at 38% in 2025 and around 42% in 2030. During the period analysed, the growing demand of these households will be significantly responsible for an increase in demand within the sectors with expected positive growth.

**Changed structure of aggregate demand**

The sectors with the highest growth potential are those producing/providing food, beverages and tobacco, housing and utilities, restaurants and hotel services and, above all privately financed health, social and long-term care². Luxury goods and services such as restaurants, travel, recreation and culture are more often demanded and consumed in countries with higher average incomes (mostly EU15). In countries with lower average incomes, represented mainly by the new EU member states, the elderly spend larger share on services and products important for day-to-day living (food and housing). Structure of consumption could be affected by an increase in the living standards of the whole EU population, or by the ageing of stronger, higher-income age groups leaving the labour market. Both could distort the structure of consumption towards more luxurious goods as they would have a positive effect on the incomes of

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² Similar additional effects can be expected also in publicly financed services, as the total demand in this sector is significantly covered from health and social insurance.
the elderly. Thus, currently, the core of silver demand will be concentrated in high income countries and its future development will depend mostly on the speed of convergence across EU.

Demand for each product group will be affected differently, depending on income flexibility, households’ welfare in each individual country, the rate of convergence and several other factors. The highest expected increase in the consumption of younger customers is related to restaurant and hotel services. There are, of course, products and services where demand will decrease, such as education, transport, clothing and footwear those are facing a higher proportional demand from younger age cohorts.

From selected country perspective, German silver consumers tend to spend a significant part of their income on health care (mainly co-payments), recreation and culture. This is determined by high income. The expected development of silver demand in Italy is fairly similar to that in Germany. Additionally, the elderly in Italy will spend a relatively high share of their expenditure on luxury products. In Slovakia, based on cultural and social behaviour, demand will mostly target goods and services for day-to-day living and healthcare. The demand of silver customers in Finland will target day-to-day necessities, as well as other more luxurious types of products and services.

**Expected effect on total employment**

Ageing has different effects on labour markets across the EU. The negative effects of the decreasing share of demand of under-60 households leads to cuts in employment, especially in sectors with higher productivity growth. Conversely, the increased demand of silver households leads to an increase in demand for the workforce, especially in labour intensive services. Due to this, we can expect more significant negative influence of ageing on aggregate household consumption, than on total employment.

Across countries there are two contrary ageing effects on total employment, effects of decreasing demand of households under 60 and positive effects of older one. From the perspective of the EU, the effect of the increased demand of the elderly will generate significant amount of 2.6 – 4.4 million new jobs during 2010-2025. Contrary, changes in the demand of younger households, along with productivity gains, will result in job losses of approximately 0.5 - 4.5 million. Total effects of changed consumption on employment will lead to total loss of 1.9 million jobs in tough scenario or creation of 3.9 million additional jobs in friendly scenario. This decrease can also be considered as an important change and, in the light of EU employment targets, appropriate reform measures should be directed at the labour market in order to solve it.

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3 The negative effects of younger households on total workforce varies between -3.5 % (friendly scenario) to -5.3 % (tough) in Germany and -0.1 to 0.6 % in Slovakia since 2010 until 2025. Additional employment caused by growing silver demand is 0.0 - 0.6 % of total workforce in Germany, 1.1 - 2.2 % in Slovakia, 0.5 - 1.6 % in Italy, 0.8 – 1.3 % in Finland and 1.2 – 2.0 % in EU27. Total impact of changed consumption on employment varies from 0.5 - 2.0 % of additional employment in Slovakia to job loses between 2.9-5.3 % in Germany.
Policy recommendations

Our analysis has shown that aging will be one of the key drivers and determinants in future consumption structure and, thus, its impact will be significant on labour demand as well. Nevertheless, not all EU member states will face this issue to the same extent. Smaller countries should focus on the production of goods and services for wealthier countries with large and affluent groups of silver consumers. Countries like Germany should consider focusing on domestic markets, meeting the needs of the growing group of relatively wealthy silver consumers. In countries with lower incomes in European terms, the key for the success of the “Silver economy” depends on the satisfaction of primary domestic market needs and ability to attract foreign customers in the service sector. Due to the growth potential hidden in the “Silver economy”, governments should consider economic and legal stimuli for companies to simplify their access to domestic and foreign “Silver markets”. Measures for domestic markets could be:

- supporting the interest in, and accessibility of the preventive healthcare
- supporting long-term care and supporting services (home deliveries etc.)
- supporting energy-efficient housing

Measures for foreign markets:

- supporting domestic tourism interesting for foreign senior citizens
- supporting domestic healthcare which can be demanded by foreign senior citizens (export of services)
- supporting cross-border accessibility of health and social care services
- supporting domestic producers’ ability to compete with foreign producers and thus helping their access to foreign markets

These measures should be embedded in national growth strategies.

European economies have to adapt to the expected effects of the ageing process on the economy and labour market. The size and structure of the primary effect has been estimated for all EU countries. In general, silver households seem to be a group with special needs and high growth potential. Export potential and innovation in providing “Silver” goods and services as common European policy could significantly contribute to create additional employment. Thus, the “silver economy”, as a concept for the future, also has high growth potential and could help to increase the long-term competitiveness of the EU in global markets, if proper innovative actions and initiatives in this field are implemented.

Some of the expected ageing effects could be reduced by proactive ageing policies or increases in the retirement age. The costs of these adjustments could be reduced by adopting immediate policy measures across all European countries. Additionally, there are significant “hidden” reserves in EU labour markets caused by inactivity and unemployment, which should be utilized with respect to incoming socio-ecological changes.

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4 Increased demand for LTC services will also leads to increased pressure on public finances, that will need to be addressed by additional policy measures

5 Also outside EU
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ABOUT NEUJOBS

“Creating and adapting jobs in Europe in the context of a socio-ecological transition”

NEUJOBS is a research project financed by the European Commission under the 7th Framework Programme. Its objective is to analyse likely future developments in the European labour market(s), in view of four major transitions that will impact employment - particularly certain sectors of the labour force and the economy - and European societies in general. What are these transitions? The first is the socio-ecological transition: a comprehensive change in the patterns of social organisation and culture, production and consumption that will drive humanity beyond the current industrial model towards a more sustainable future. The second is the societal transition, produced by a combination of population ageing, low fertility rates, changing family structures, urbanisation and growing female employment. The third transition concerns new territorial dynamics and the balance between agglomeration and dispersion forces. The fourth is a skills (upgrading) transition and its likely consequences for employment and (in)equality.

Research Areas

NEUJOBS consists of 23 work packages organised in six groups:

- **Group 1** provides a conceptualisation of the socio-ecological transition that constitutes the basis for the other work-packages.

- **Group 2** considers in detail the main drivers for change and the resulting relevant policies. Regarding the drivers we analyse the discourse on job quality, educational needs, changes in the organisation of production and in the employment structure. Regarding relevant policies, research in this group assesses the impact of changes in family composition, the effect of labour relations and the issue of financing transition in an era of budget constraints. The regional dimension is taken into account, also in relation to migration flows.

- **Group 3** models economic and employment development on the basis of the inputs provided in the previous work packages.

- **Group 4** examines possible employment trends in key sectors of the economy in the light of the transition processes: energy, health care and goods/services for the ageing population, care services, housing and transport.

- **Group 5** focuses on impact groups, namely those vital for employment growth in the EU: women, the elderly, immigrants and Roma.

- **Group 6** is composed of transversal work packages: implications NEUJOBS findings for EU policy-making, dissemination, management and coordination.

For more information, visit: [www.neujobs.eu](http://www.neujobs.eu)

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