MINISTÈRE
DE L'ÉCONOMIE,
DES FINANCES
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Tresor-Economics

No. 326 • April 2023

Direction générale du Trésor

Japan's Growth Drivers

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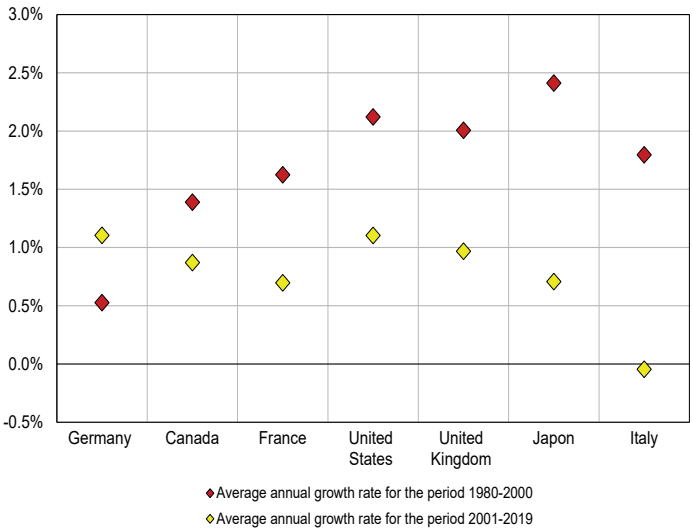
- After a dazzling economic catch-up in the post-war years, Japan has been experiencing low growth levels since the noughties – which distinguish it within the OECD – despite the efforts of successive governments to generate fresh momentum. Although it posted the highest GDP per capita growth in the G7 until the end of the 1990s, Japan, together with Italy, is the country in which growth has fallen the most on average since then (see Chart).

- Initially buttressed by a rapid rise in capital stock, Japan's growth has only been sustained by the workforce and total factor productivity since 2010, and this leverage is now weakening. The population is ageing and declining, and hourly labour productivity is growing meekly, especially in SMEs which are predominant in the manufacturing base and are less productive than large enterprises. Too much investment is earmarked to offset capital depreciation – a sign that this factor is poorly allocated. Potential growth, which stood at around 4.0% in 1990, is now estimated at less than 0.5%.

- "Abenomics", which were unveiled in 2013, aimed to expand the workforce and improve working conditions but they were only partly successful. Subsequent governments have focused on investments for the future to boost supply and lastingly lift productivity, through the digital transformation and the low-carbon transition initiated as from 2020, followed by the plan promoting a "new capitalism" which was introduced in 2021 and puts priority on entrepreneurship and vocational training.

- Japanese growth will continue to be hampered by demographic trends and this calls for continued support for the employment of older workers, immigration and the birth rate by means of bold structural reforms. Japan also has headroom for improving the allocation of capital and the rollout of new technologies, a sector with strong growth potential.

Average annual GDP per capita growth rate

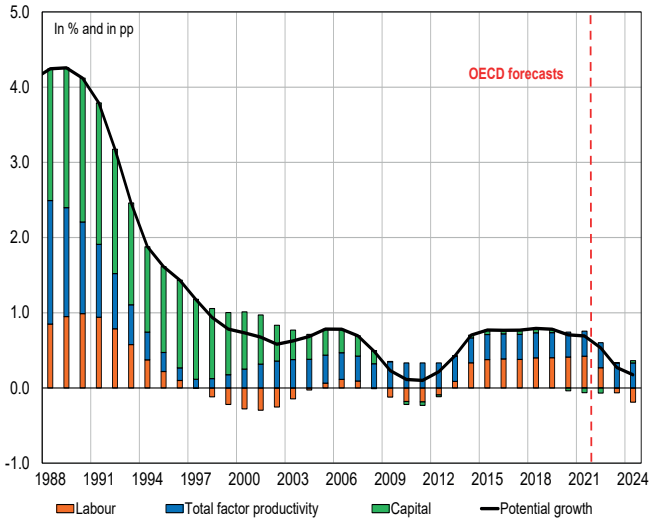


Source: National statistics institutes, DG Trésor calculations, volume data.

1. Potential growth is severely limited by demographics and capital depreciation

After the speculative bubble burst in the second half of the 1980s, Japan's potential growth[1] fell significantly from almost 4.0% in 1990 to less than 1.0% in 1999, a level that it has not exceeded since then (see Chart 1). The majority of this change is attributable to the downward trend in the Japanese labour force and a slowdown in the accumulation of capital, in particular in equipment and infrastructure, a factor which was a growth driver during the post-war reconstruction period. For 2022 and 2023, the OECD[2] projects potential growth of 0.5% followed by 0.2% with a negative contribution of the labour factor (–0.2 points in 2024).

Chart 1: Japan – Potential growth



Sources: OECD Economic Outlook, November 2022; DG Trésor calculations.

1.1 Labour supply is restricted by the shrinking population

The contribution of labour to Japan's potential growth has followed the demographics of its workforce. It fell from almost one point in 1990 to zero or negative values in the early 2000s before returning to positive figures as from 2012.

Japan's total population is experiencing a medium- to long-term negative trend, which has been on a downward trajectory since 2008, after peaking at 128.1 million inhabitants. According to projections from the Ministry of Health, Labour and Welfare (MHLW), it is set to decline sharply in the coming decades, falling as low as 90 million in 2060. This is due to the country's very low fertility rate (1.3 in 2021) and a still-selective immigration policy (foreigners accounted for 2.2% of the total population in 2019 compared to 7.3% in France and 13.1% in Germany).

The working-age population is also shrinking rapidly as the number of 15-64 year olds fell from 81 million in 2012 to 74 million in 2021. The labour market is expected to face strong pressure in the coming years, whilst the unemployment rate is already one of the lowest in the world (2.6% in February 2023).

Overall, the contribution of labour to potential growth nevertheless rose from –0.2 points to +0.4 points between 2011 and 2021, as a result of Abenomics' "third arrow", which was aimed at expanding the workforce. This enabled the working population to be temporarily stabilised and even bolstered. The participation of women and older workers increased thanks to structural reforms to support their employment. Progress was also made on immigration policy with reforms that were kick-started prior to the COVID-19 pandemic focusing on middle- and highly-skilled workers (see below).

1.2 Offsetting capital depreciation uses up most of Japan's investment capacity

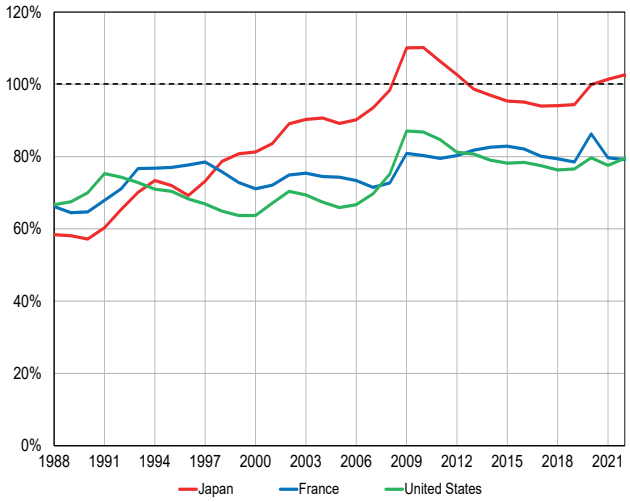
The contribution of capital to annual potential growth has also fallen significantly since the speculative bubble burst in 1985 from around 2 points in 1988 to almost zero since the end of the noughties. New capital creation has slowed considerably. At almost 400% of GDP, the plateau for this stock is at a very high level compared to the OECD average which is between 200% and 275% of GDP.

(1) Potential growth is an estimate of the annual GDP growth rate assuming optimal use of production factors and a lack of tension on the market for goods and services, and on the labour market. It is broken down into three factors: labour, capital and total factor productivity. The latter is equatable with technical progress and is calculated using OECD figures.
(2) OECD Economic Outlook, November 2022.

Between 2010 and 2019, gross fixed capital formation (GFCF) accounted for 24.5% of Japan's GDP versus 21.5% in France and 19.5% in the United States. However, 98.8% of Japanese investment was earmarked to replenish the capital stock (see Chart 2), which is stagnating, whereas these figures were only 79.9% in France and 80.8% in the United States.

In addition, the structure of capital stock has scarcely changed in Japan: the proportion of software in capital only increased from 1.1% in 1994 to 1.8% in 2018, while that of industrial capital (plant and machinery) fell from 10.4% to 9.3%.[3] Over the same period in the United States, software climbed from 1.3% to 2.5% with plant and machinery falling from 25.7% to 23.0%.[4]

Chart 2: Fixed capital consumption (as a % of GFCF)



Source: World Bank.

2. Productivity gains are held back by labour market inefficiency and delays in digitalisation

Due to the lack of labour supply and capital stock momentum, Japan's potential growth is largely contingent on efficiency gains in the use of factors (measured by "total factor productivity" or TFP). These gains nevertheless remain low and have only contributed around 0.3 points to potential growth since the turn of the century.

2.1 Labour market dualism puts a drag on mobility and vocational training

The lifetime employment model, or "regular" employment, which still holds currency on the Japanese labour market, started to be challenged in the early 1990s against the backdrop of companies' over-indebtedness. Less secure "non-regular" contracts[5] rapidly gained ground. They were initially limited to SMEs but have spread to all firms: the number of non-regular employees mushroomed from 9.7 million (20% of the total) in 1994 to 21.1 million (37%) in June 2022.[6]

This means that there is now extreme labour market segmentation which has adverse effects on productivity. Firstly, the increase in non-regular contracts negatively affects investment in human capital. Businesses have little incentive to invest in training these employees whose contracts are mainly for short periods. As a result, they receive less than half as much training as regular employees. Secondly, lack of training also has an impact on regular staff who may hold a position that bears no relation to their studies as, in Japan, achieving the status of regular employee takes precedence over the position matching the person's aspirations.

Overall, the amount of training provided in Japan is the fifth lowest in the OECD and this is depriving the country of major productivity gains. A survey[7] by the Research Institute of Economy, Trade and Industry (RIETI)[8] highlights the fact that potential gains from vocational training are higher than those derived from tangible investments, especially in the tertiary sector, where there are the majority of non-regular jobs and where growth in productivity is particularly low.

(3) Source: Research Institute of Economy, Trade and Industry (RIETI); the share of real estate (residential, structures and non-residential) in Japan shrank from 80.6% to 76.3%.
(4) Source: Bureau of Economic Analysis (BEA); the share of real estate in the United States is stable at 66.6%.
(5) Covering fixed-term, part-time and temping contracts, or contracts which provide lower wages and less social protection.
(6) Source: "Labour Force Survey", Ministry of Internal Affairs and Communications.
(7) M. Morikawa (2019), "Employer-Provided Training and Productivity: Evidence from a Panel of Japanese Firms", *RIETI Discussion Paper*, 19-E-005.
(8) The RIETI is a research body reporting to the Ministry of Economy, Trade and Industry (METI).

Japan's labour productivity also suffers from very poor intra-company employee mobility. Due to the lifetime employment model, employees favour remaining in their position and this blocks the handing down of best practices, the distribution of technologies and the creation of new businesses. In 2020, only 6% of regular employees and 8% of all employees changed jobs in Japan compared with 15% in France and 22% in the United States.

2.2 Firms' digitalisation is being delayed by low entrepreneurial momentum

Contrary to popular belief, investments in information and communication technologies (ICTs) in Japan are currently, on the whole, low and poorly targeted. The country has fallen behind with both the digitalisation of its SMEs and the development of startups.

Investment in ICTs has been stable since 1995 whilst tripling in France and the United States between 1995 and 2017. 60% of Japanese businesses' information systems will be over 20 years old by 2025.[9] It was only in September 2022 that the government unveiled a plan to eliminate floppy disks and fax machines which are still widely used by firms and government departments.

An initial explanation can be found in the age of company managers (62.8 years old on average in 2021) and uncertainty regarding their succession (in 2018, 49% of company managers over the age of 60 had not designated a successor). A second aspect is the age of firms themselves. Three-quarters of Japanese SMEs were set up over ten years ago. According to the RIETI, these businesses invest far less than more-recently created companies[10] and tend to cut back on investments in intangible capital during crises. This situation, which is conducive to maintaining obsolete productive capital, is not changing: the entry rate[11] of businesses remained especially low at 5% in 2019 (as against 12% in France), in spite of the 10% target that the government has been striving for since 2014.[12]

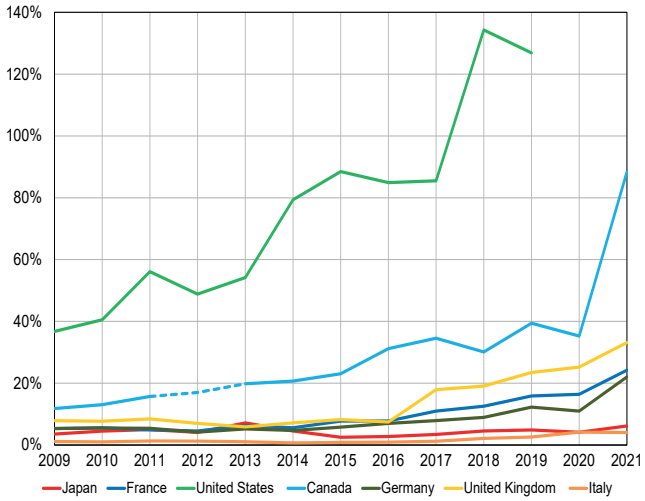
Taking up new technologies and introducing the necessary operational changes also come up against a business culture that is strongly risk averse.

According to a survey conducted by the Japanese Ministry of Health, Labour and Welfare on the digital transition in SMEs, the first barrier to their digitalisation relates to concerns over the security of information and personal data, especially among the elderly. Secondly, managers tend to prioritise the company's longevity[13] and avoid risky projects without necessarily looking to boost the firm's profits.

This is also the case for the major groups. While investment in R&D accounts for 3.5% of GDP, putting Japan in third place globally, its share of worldwide patents plummeted from 31% in the early noughties to 10% in 2017. The tendency is to improve existing products at the expense of developing innovative ones.

Lastly, among OECD countries, Japan stands out due to the small number of startups; it only had 10 unicorns (startups valued at more than a billion dollars) in 2022 compared with 29 in France. The venture capital sector is under-developed (see Chart 3) and commercial banks, which require substantial security and rarely fund innovative startups, do not fill the gap in access to finance. This appears to be another reflection of risk aversion and is underscored by surveys which flag up the lack of potential managers' confidence in their personal abilities,[14] the strong perception of the risk of failure and the difficulty in finding another job in the event of an unsuccessful business venture as obstacles to the emergence of a vibrant entrepreneurial fabric.

Chart 3: Venture capital investment in ICT firms (as a % of GDP)



Source: OECD, DG Trésor calculations.

(9) "Japan's 2025 Digital Cliff", Norbert Gehrke, 2019.
(10) K. Hosono, M. Takizawa and K. Yamanouchi (2020), "Firm Age, Productivity, and Intangible Capital", *RIETI Discussion Paper Series*, 20- E-001.
(11) The entry rate is the ratio between the number of new businesses set up at the end of a given year and the number of active companies at the start of that year.
(12) "Japan Revitalization Strategy", 2014, Prime Minister's Private Office.
(13) "Why Japan has the most old companies in the world", Yuri Kageyama, Associated Press.
(14) GEM Global Entrepreneurship Monitor (2019), "Entrepreneurship in Japan" (gemconsortium.org).

In addition, Japanese banks always require physical capital or real estate as collateral and this prevents businesses from using intangible capital, in particular digital capital, as a guarantee to secure funding. This means that tech companies have difficulties in obtaining financing and hold cash as a safety net; digital startups require substantial financing before becoming profitable. In its 2023 Article IV consultation,[15] the IMF showed that the cash flow of private Japanese businesses increased by 5.4% from 2004 to 2019 with only 1.5 points being attributable to the growth in intangible capital. The United States solved this issue with the cash-flow-based lending system which allows a business's revenue to be used as collateral, but there is no such system in Japan.

Box 1: SMEs with low productivity dominant in the economy

In Japan, the definition of "small- and medium-sized enterprise (SME)" changes depending on the sector,[a] unlike the European definition.[b]

Japan's 3.6 million SMEs account for 60% of jobs and 53% of value added (2017).[c] In Japan, the productivity of small enterprises (10-49 employees) is almost 60% lower than that of large enterprises, compared with a difference of around 50% in all OECD countries. The trend is for this gap to widen as the productivity of Japanese SMEs has been stable since 2009,[d] and this puts downward pressure on average productivity.

The least productive are non-exporting SMEs (by about a third, as in the other OECD countries) but SMEs' share of Japanese exports is low in relation to the remainder of OECD countries. In 2019, SMEs were responsible for 7% of Japan's total exports compared to 17% for France and 19% for Germany.

The poor productivity of Japanese SMEs is also due to hiring difficulties. In 2019, the number of positions available per job application was 9.9 for companies with less than 300 employees versus 0.9 for firms with more than 300 employees. Broadly speaking, Japan's SMEs offer less appealing working conditions and career opportunities than large enterprises (e.g. full-time salaries were 25% lower in 2017).

Lastly, low levels of investments in R&D by Japanese SMEs also explain their lack of productivity. In 2013, they accounted for around 5% of total R&D expenditure compared to an average of 40% in the OECD as a whole.[e] As marginal returns on investment are larger in small companies (due to decreasing marginal returns in terms of productivity), the low levels of R&D in SMEs demonstrate the structural issue of the allocation of GFCF and go some way to explaining the minor role of capital in growth.

a. Manufacturing industry: up to 300 employees and capital of 300m yen. Wholesale sales: up to 100 employees and capital of 100m yen. Services: up to 100 employees and capital of 50m yen. Retail sales: up to 50 employees and capital of 50m yen.
b. Up to 250 employees and turnover of €50m.
c. In 2018, French SMEs accounted for 53% of jobs and 44% of value added.
d. M. Colacelli and G.L. Hong (2019), "Productivity Drag from Small and Medium-Sized Enterprises in Japan", *IMF Working Papers* No. 2019/137.
e. R. Jones (2022), *The Japanese Economy: Strategies to Cope with a Shrinking and Ageing Population*, London, Routledge Press.

(15) Japan: 2023 Article IV Consultation – Press Release; Staff Report; and Statement by the Executive Director for Japan (imf.org).

3. Productivity is now central to the Japanese government's agenda

According to the OECD, if there are no fresh reforms, Japan's potential growth will be close to zero in 2030 (+0.1%).[16] On the basis of population projections from the National Institute of Population and Social Security Research (NIPSSR),[17] the contribution of the labour factor to potential growth is negative as the fall in the working-age population is only partly offset by the increase in the labour force participation rate.[18]

3.1 Abenomics: a bold programme that was not fully implemented

Renewed growth was the flagship promise of Shinzo Abe when he returned to power in late 2012. His economic policy – Abenomics – drew substantially on the works of Koichi Hamada, a professor at Yale and Etsuro Honda, head of the Policy Research Institute at the Ministry of Finance (MoF). The policy was built around three "arrows" aimed at getting Japan out of the deflationary spiral: (i) a highly accommodative monetary policy, (ii) a flexible fiscal policy and (iii) structural reforms intended to create a supply shock.

The first two arrows enabled the economy to be buoyed up with average growth and inflation at 1% and 0.8% respectively per year between 2013 and 2019. Although the structural reforms were only partly rolled out and did not help fast track the digital transition, they did boost the supply of jobs and therefore temporarily buttressed potential growth (see Box 2).

Measures to expand the workforce were supplemented by the "workstyle" reforms that were introduced in 2019 to fight "presenteeism" by limiting overtime to 100 hours per month with legal penalties for employers that violate the regulations,[19] and to reduce use of non-regular contracts by forbidding companies from varying wages, for the same position, depending on the status of the contract they offer. According to statistics from the Ministry of Health, Labour and Welfare, these reforms, which took effect in 2020 for major enterprises and in 2021 for SMEs, have especially improved working conditions for women. Between April 2019 and June 2022, 390,000 less women had a non-regular contract and 850,000 more had a regular one.[20]

Box 2: Labour market reforms led to an expansion of the labour force despite the decline of the working-age population

Under the leadership of Prime Minister Shinzo Abe (2012-2020), the government reformed the labour market with an eye to expanding the declining workforce; the working-age population (15 to 64 years old) has been constantly falling since its 1997 peak. In the main, these reforms were successful: the labour force jumped from 65 million in 2012 to 69 million in 2022, thus exceeding the previous record of 68 million workers which was reached in 1997 (see Chart 4).

Various employment-support policies were rolled out, first in favour of women: increased capacities for day nurseries, parental leave incentives and the requirement for firms to have a strategy for hiring women.[a] These measures enabled 3.8 million women to join the labour market between 2013 and 2022 and this put the female participation rate (73.3% in 2021) above that of the EU (68.6%) and the United States (68.2%). By 2025, the government plans to make it mandatory for companies with over 300 employees to publish differences in wages between women and men[b] in an effort to redress Japan's poor standing in international rankings (third-largest gender pay gap in the OECD at 22%) and to further bolster female participation in the labour market.

To help keep older workers employed, the statutory retirement age was raised from 60 to 65 in 2013. In addition, since 2012, there has been a requirement to offer an adapted form of employment to employees having reached

a. 2016 Act which requires businesses and central and local government authorities to draw up and publicly disclose plans to increase the number of women in management positions. Firms with more than 300 employees – i.e. around 15,000 nationwide – are obliged to assess the proportion of women hired and among executives, and to set quantified targets to increase their number.

b. Act on Promotion of Women's Participation and Advancement in the Workplace (gender.go.jp).

(16) It is assumed that the contribution of the capital factor (+0.1 point) and total factor productivity (+0.3 point) will remain at the average level that has been estimated since 2009.

(17) "Population & Household Projection", National Institute of Population and Social Security Research (ipss.go.jp).

(18) The labour force participation rate as from 15 years old and above rose from 59% in 2012 to 62% in 2019 which enabled the growth of the dependency ratio (non-working population to labour force) to be reined in without, however, reversing the upward trend (worldbank.org).

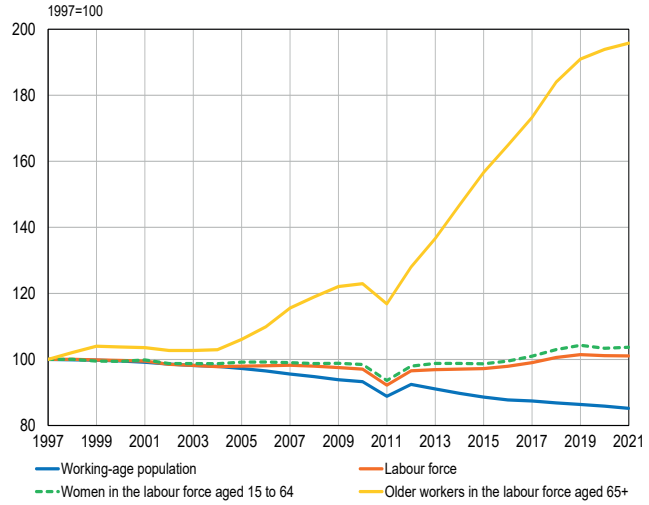
(19) "Work Style Reform Bill Enacted", *Japan Labor Issues*, vol. 2, No. 10, November 2018 (jil.go.jp).

(20) Among those with regular contracts, women are nevertheless still over-represented in so-called *jimushoku* positions (equivalent to personal assistants' jobs), which offer little career development unlike so-called *sogoshoku* positions (supervisory jobs), in which men are over-represented.

the age of 65[c] (age increased to 70 since 2021), which has led to many retirees being rehired. The employment rate for persons over 65 increased from 19.9% in 2010 to 25.3% in 2019, while in the United States it rose from 17.4% to 20.2%.

Immigration, which is still a sensitive issue, has been encouraged through a number of reforms aimed at expanding activities eligible for working visas. In 2019, the government introduced two new residency statuses: a visa for middle-skilled workers in 14 new sectors (agriculture, construction, catering, etc.) and a visa reserved for highly-skilled workers, which is renewable indefinitely and provides access to Japan for the worker's family. Nevertheless, whilst the number of foreign workers did increase from 600,000 in 2012 to 1.7 million at the end of 2021, they still only represent 2.8% of the labour force. The 2019 amendments to the Immigration Control and Refugee Recognition Act were made to attract 69,000 new middle-skilled workers per year but this is insufficient to ensure demographic renewal. In 2014, the Cabinet Office estimated that maintaining a population of 100 million inhabitants would require the arrival of 200,000 migrants per year by 2030 if the fertility rate remained unchanged. At present, actual immigration is around 35,000 migrants per year less than the target figure.

Chart 4: Change in the number of workers in Japan



Source: OECD, DG Trésor calculations.

Lastly, the 2015 goal of increasing the minimum hourly salary to 1,000 yen by 2025 is achievable after the 3.3% hike in August 2022 that brought the national average up to 961 yen.

c. Act on Stabilization of Employment of Elderly Persons – English – Japanese Law Translation.

3.2 "New capitalism": a fresh focus on investments for the future

The action of Shinzo Abe's successors followed on from their predecessor with the continuation of highly expansionary monetary and fiscal policies which are seen as vital for reigniting growth whilst heightening the focus on investments for the future.

In late 2021, after the COVID-19 pandemic had clearly highlighted the fact that Japan was lagging behind in terms of digitalisation, The Digital Agency was set up to harmonise and bolster the government's IT departments and to draw in the private sector by taking advantage of the impetus for using digital resources created by the pandemic (after peaking at 31.5% in May 2020, the rate of teleworking by the workforce levelled off at 20% which is more than double the pre-pandemic level). According to the June 2022 Tankan survey, investments in software rose by 15.5% in 2022 across all businesses and sectors.

The government that took power in 2021 is advocating a "new capitalism" based on greater investment in human capital. A million workers are set to be supported by a three-year €3bn programme devoted to mid-career training and occupational retraining, especially for innovative professions. Funding innovation should be enhanced with €3.7bn over five years being earmarked for research, and a target for increased investment in startups in the next five years thanks to the increasing involvement of the Government Pension Investment Fund, the world's largest public pension fund. The Japanese government has also addressed the issue of business handovers (see above) by encouraging mergers, cutting inheritance tax and granting credit facilities.

The country has also initiated a major shift as regards decarbonisation since the 2020 announcement of the target of achieving carbon neutrality by 2050. The government is planning the future of its economy around renewable technologies which it expects to drive growth through huge investments and the resulting future productivity gains. The authorities consider that €1,070bn in public and private investments over 10 years will be required for this "green transformation" which is one of the pillars of the new capitalism. This objective offers high growth potential as it represents around 10% of actual GFCF over the past decade.

Publisher:
Ministère de l'Économie,
des Finances
et de la Souveraineté
industrielle et numérique
Direction générale du Trésor
139, rue de Bercy
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English translation:
Centre de traduction
des ministères économique
et financier

Layout:
Mimose Mellia
ISSN 1962-400X
eISSN 2417-9698

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