OECD Economic Surveys UNITED STATES

JUNE 2012

OVERVIEW

OECD

Summary

Economic policy should continue to sustain the recovery and address financial weaknesses and longer term fiscal sustainability. Monetary policy should continue to support the recovery. Legislative decisions are required to avoid the fiscal "cliff" in 2013 due to the scheduled expiration of tax cuts and automatic spending cuts, while further reducing the federal budget deficit at a gradual pace so as to put the federal debt-GDP ratio on a downward path and restore fiscal sustainability. The United States has been active in its efforts to reduce the risk of financial crises, thanks notably to the "Dodd-Frank Act", which should be fully implemented. In addition, the Federal Reserve and other US agencies with financial responsibilities are engaged with regulators from other countries to find ways to address the vulnerabilities exposed by the crisis. Banking institutions should be encouraged to maintain high levels of equity capital, and efforts to develop improved analytical tools and information systems to monitor risks to the financial system should be continued.

Although job creation has improved and the unemployment rate has come down from a high of 10.0% in October 2009, the effects of the recession on the labour market remain. Unemployment duration is still extremely high, and about 40% of the unemployed have been out of work for 27 weeks or more. Policies should continue to promote job creation and facilitate the return to work. Recent reforms passed as part of the Middle Class Tax Relief and Job Creation Act of 2012 put more emphasis on labour activation to help the long-term unemployed search for jobs but there should also be more emphasis on helping them to find adequate training programmes. In the longer term, education and training are key to raising the skills and wages of the workforce, and in this regard, further enhancing the community college system would be a cost-effective way to provide more individuals with an affordable way to increase their human capital.

Income inequality and relative poverty are among the highest in the OECD. This is associated with a number of negative consequences, including low intergenerational social mobility. At the same time, there is no consensus in the economic literature that reducing inequality would be harmful to economic growth. High income inequality is attributable to a significant degree to the large dispersion of earned income, which should be addressed by reforming education, so as to provide disadvantaged students with the skills needed to fully realise their potential. To reduce both income inequality and distortions in resource allocation, tax expenditures that disproportionately benefit high earners should be limited over time. In particular, effective tax rates on debt-financed corporate investment and housing should be equalized at the higher rate on equity-financed corporate investment while simultaneously lowering the corporate tax rate. Social transfers could be more effective in alleviating poverty through better targeting of the truly needy and simplifying of transfer programmes.

The US economy is very innovative, but fissures have begun to appear. Innovation performance has weakened according to various indicators, although from a high level. To foster innovation and economic growth, reductions in the federal R&D budget should be as limited as possible. Ideally, funds would be appropriated to continue on the path approved in the 2007 America COMPETES Act of doubling the budgets for three key science agencies within a decade. Patent reform should be taken further than in the America Invents Act by ensuring that the legal standards for granting injunctive relief and damages awards for patent infringement reflect realistic business practices and the relative contributions of patented components of complex products. In light of spillover benefits from manufacturing activity, the measures proposed by the Administration to strengthen manufacturing competitiveness should be implemented. Education reform is needed to strengthen achievement and to address lagging tertiary attainment in the fields of science, technology, engineering and mathematics (STEM).

Key recommendations

Macroeconomic policies to promote a sustainable recovery

1. Monetary policy should continue to support the recovery. Current legislation should be amended to avoid a sharp fiscal contraction in 2013, which would derail the recovery. Rather, fiscal consolidation should occur at a gradual pace, and should be implemented as part of a commitment to a medium-term framework to restore fiscal sustainability.

2. Further measures to simplify procedures and expand eligibility for mortgage loan modification programmes are encouraged, as these programmes can aid financially-distressed home owners, facilitate recovery in the housing market, and strengthen an important transmission channel of monetary policy.

3. Reforms to reduce the risk of new financial crises should be fully implemented. Banks should be encouraged to maintain high levels of equity capital, and regulators should continue efforts to develop improved analytical tools and information systems to monitor risks to the financial sector.

Policies to promote job creation and earnings growth

4. Development of enhanced "activation" programmes would facilitate the return to work for many unemployed individuals and mitigate the risk of long-term unemployment becoming structural. A variety of proposals for training and re-employment services were presented in the Administration's FY 2013 budget, and these plans should be implemented without delay.

5. Education and training are key to improving skills, reducing mismatches, and addressing the problem of slow wage growth. Programmes such as Race to the Top and measures to strengthen community colleges are steps in the right direction, but more could be done, such as reducing financial and other barriers to tertiary education and providing vocational training opportunities in secondary school.

Reducing income inequality and combating poverty

6. Comprehensive education reform should provide more disadvantaged students with valuable skills that would help them to raise their incomes and increase social mobility. States relying heavily on local property taxes to fund public elementary and secondary schools should move to state-level funding to increase the resources and quality of teachers available to socially-disadvantaged students.

7. A comprehensive approach to limiting tax expenditures that disproportionately benefit high earners is needed, for instance by limiting the marginal income tax rate at which deductions (such as for owner occupiers' mortgage interest payments) may be claimed and exclusions (such as for employer-provided health insurance cover) permitted to 28%, as proposed in the Administration's FY 2013 budget.

8. The unequal tax treatment of income from different asset classes increases inequality in some cases and distorts the allocation of capital. Equalizing the effective tax rates on debt-financed corporate investment and on housing at the higher rate on equity-financed corporate investment while simultaneously lowering the corporate tax rate would reduce income inequality and improve the efficiency of investment. This is because capital income is highly concentrated in higher-income households and tenants, to whom much of the current relatively high effective taxation on tenancy-occupied housing is shifted, typically have lower incomes than owner occupiers

9. The transfer system reduces poverty among specific groups, but leaves others unreached. An increased focus of eligibility criteria on income level is necessary. Simplifying the myriad of transfer programmes would lower administrative costs and increase take-up.

Fostering innovation

10. Given the importance of R&D for innovation and economic growth, reductions in the federal R&D budget should be as limited as possible. Ideally, funds would be appropriated to continue on the path approved in the 2007 America COMPETES Act of doubling the budgets for three key science agencies within a decade.

11. Patent reform (America Invents Act) needs to be taken further by ensuring that the legal standards for granting injunctive relief and damages awards for patent infringement reflect realistic business practices and the relative contributions of patented components of complex products.

12. Tertiary education attainment in STEM fields needs to be increased. An important step in doing so is improving access to quality secondary education so that students are better prepared for STEM tertiary studies.

Assessment and recommendations

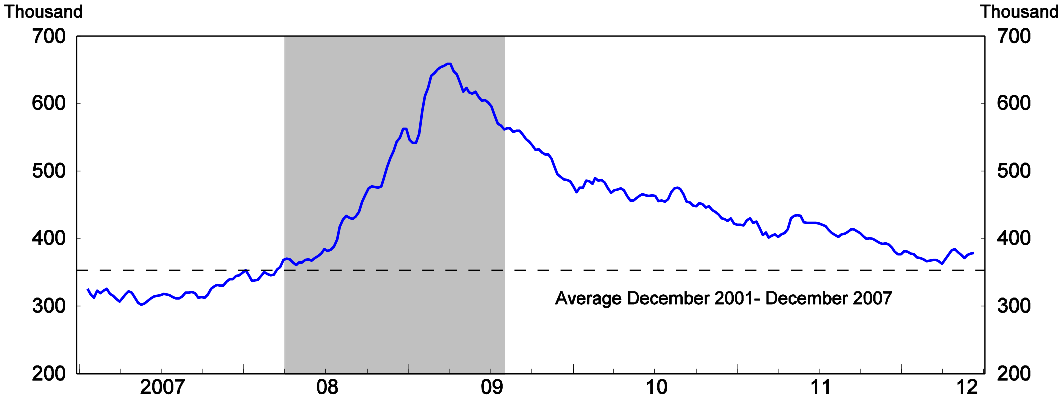
Macroeconomic and financial policies

The economic recovery has begun to show some momentum

The economic recovery in the United States has gained momentum. Consumption spending has accelerated from its weak pace through most of 2011, and business investment has continued to record solid gains. Residential investment, meanwhile, has shown some signs of a sustained recovery. In the labour market, the pace of employment growth has risen early this year, and initial claims for unemployment insurance have dropped close to the levels observed prior to the recession (Figure 1). Although still high, the unemployment rate has fallen nearly 2 percentage points from its peak in 2009.

Figure 1. Initial claims for unemployment insurance have dropped near their pre-recession average[1]

New claims per week, seasonally adjusted, four-week moving average

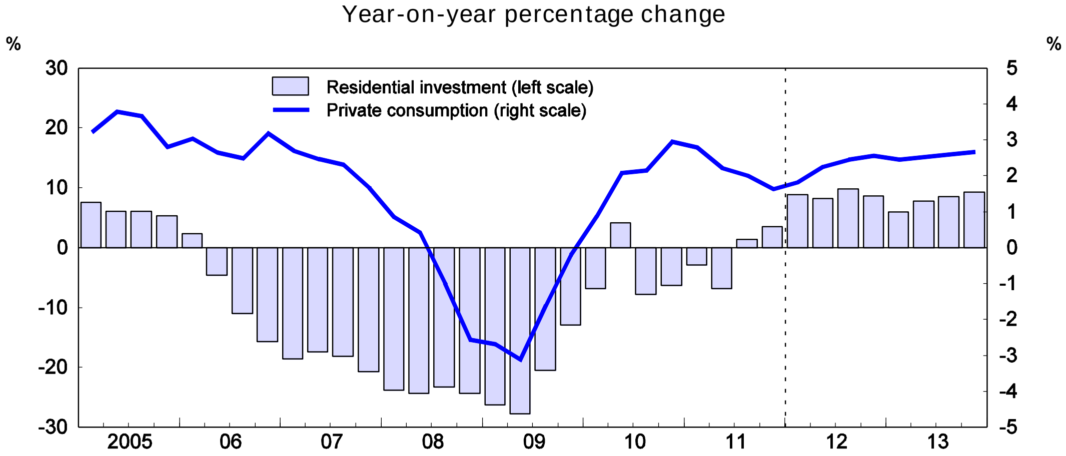


1. Shaded area shows NBER recession dates.

Source: US Bureau of Labor Statistics.

Even with these substantial improvements, however, the recovery is far from complete. Although demand for housing has picked up, the large overhang of unsold homes and the ongoing tide of foreclosures will continue to put downward pressure on house prices and residential investment in the short term (Figure 2). The lack of a robust pickup in construction activity from its recent very low levels is cause for concern because this sector is normally an important source of growth following recessions. In addition, macroeconomic imbalances have not been entirely eliminated, as uncertainty about the sustainability of the recovery has restrained business investment and slow growth in some trading partners has held back exports.

DFigure 2. Private consumption and residential investment are picking up



Source: OECD, Economic Outlook 91 Database.

Given these developments, real GDP growth is projected to remain moderate this year and next. Consumption growth will likely stay near its current pace, as the firming pace of labour income growth is partly eroded by the lagged effects of higher energy prices. Moreover, under current legislation the rate of fiscal consolidation is set to intensify sharply, which will significantly restrain aggregate demand. Meanwhile, the sovereign debt crisis in Europe remains a source of concern given the many linkages between US financial institutions and European financial markets, Taken together, the downside risks to the economy in the near term suggest that policy makers should continue to support the recovery and stand ready to act further if the more negative outcomes materialise.

Table 1. Main macroeconomic and financial indicators

	2011	2009	2010	2011	2012	2013
	Current prices USD billion	Percentage changes from previous year, volume (2005 prices)				
Real GDP	15 094.0	-3.5	3.0	1.7	2.4	2.6
Private consumption	10 726.0	-1.9	2.0	2.2	2.3	2.6
Government consumption	2 547.3	2.0	0.9	-1.2	-1.3	-0.1
Gross fixed capital formation	2 353.2	-15.2	2.0	3.7	4.4	6.3
Final domestic demand	15 626.5	-3.6	1.8	1.8	2.0	2.7
Stockbuilding[1]	46.3	-.8	1.7	-0.2	0.3	0.0
Total domestic demand	15 672.8	-4.4	3.4	1.6	2.3	2.7
Exports of goods and services	2 085.5	-9.4	11.3	6.7	4.9	6.7
Imports of goods and services	2 664.2	-13.6	12.5	4.9	3.9	6.2
Net exports[1]	-578.8	1.0	-0.5	0.0	-0.0	-0.2
Terms of trade	-	5.9	-1.6	-1.4	-2.1	-1.1
Consumer price index	-	-0.3	1.6	3.1	2.3	1.9
Private consumption deflator	-	0.2	1.8	2.5	2.0	1.8
Unemployment rate[2]	-	9.3	9.6	8.9	8.1	7.6
Household saving ratio[3]	-	5.1	5.3	4.7	4.3	4.0
General government financial balance[4, 5]	-	-11.6	-10.7	-9.7	-8.3	-6.5
General government gross debt[4, 5]	-	89.7	98.3	102.7	108.6	111.2
Current account balance[3]	-	-2.7	-3.2	-3.1	-3.7	-4.3
Real GDI	-	-4.0	3.6	2.0	-	-
Memorandum items:						
Administration's FY 2013 budget						
Federal budget surplus/deficit[4,6]	-	-10.1	-9.0	-8.7	-8.1	-6.1
Federal debt held by the public[4,6]	-	54.1	62.8	67.7	73.7	78.7
OECD model[7]						
Federal budget surplus/deficit[4]		-10.1	-9.0	-8.7	-7.6	-6.1
Federal debt held by the public[4]		54.1	62.8	67.7	73.2	77.1

Note: National accounts are based on official chain-linked data. This introduces a discrepancy in the identity between real demand components and GDP. For further details see OECD *Economic Outlook Sources and Methods* (www.oecd.org/eco/sources-and-methods).

1. Contributions to changes in real GDP (percentage of real GDP in previous year), actual amount in the first column.
2. As a percentage of the labour force.
3. As a percentage of disposable household income.
4. As a percentage of nominal GDP.
5. General government shows the consolidated (*i.e.,* with intra-government amounts netted out) accounts for all levels of government (central plus state/local).
6. CBO (2012a) analysis of the Administration's FY 2013 budget, fiscal years. The CBO produces independent, nonpartisan and timely analysis of economic and budgetary issues to support the Congressional budget process. The Office of Management and Budget (OMB) projects a greater reduction in the deficit, to 5.5% of GDP in FY 2013, mainly because economic growth is assumed to be higher than in the CBO projection.
7. The OECD model is described in Lenain *et al.,* (2010). It assumes that the budget deficit is reduced by 1.5% of GDP in FY 2013 and by 1% of GDP in each subsequent year until the deficit reaches 0.5% of GDP by FY 2019 and remains at that level thereafter.

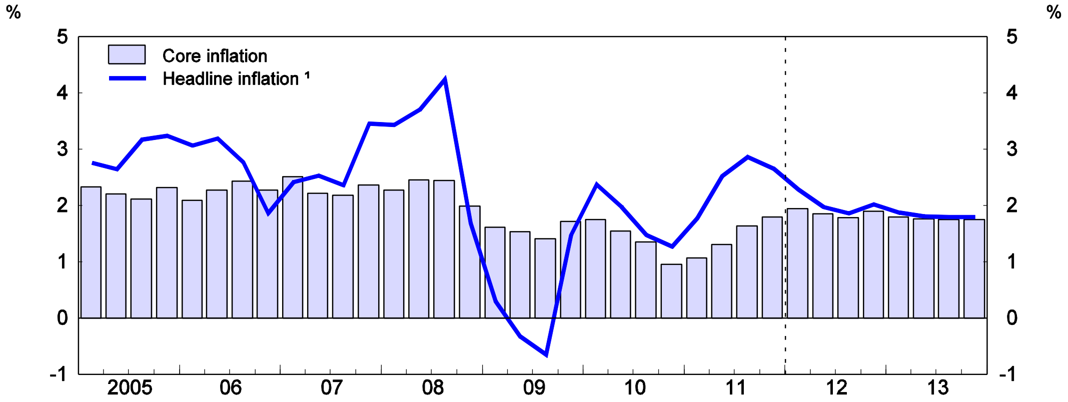
Source: OECD Economic Outlook 91 database and US Congressional Budget Office.

Monetary policy continues to support the recovery in various ways

Since the onset of the financial crisis, the Federal Reserve has undertaken a variety of creative policy actions to support the recovery, anchor inflation expectations and promote the stable functioning of financial and credit markets. Monetary policy has remained extremely accommodative, as the Federal Open Market Committee (FOMC) has maintained a target range for the federal funds rate between 0 and 0.25% since December 2008, a stance reflecting generally subdued underlying inflation and high unemployment (Figure 3). With the nominal federal funds rate near its zero lower bound, the FOMC implemented several additional measures, including two rounds of purchases of long-term assets intended to put downward pressure on longer-term interest rates and improve conditions in credit markets. Finally, when financial market pressures in Europe became intense in the autumn of 2011, the Federal Reserve implemented a programme to extend the average maturity of its holdings of Treasury securities (the Maturity Extension Program, also known as 'operation twist'), in order to put additional downward pressure on longer-term interest rates. These policies are warranted in the current economic environment, but may need to be reversed sooner than anticipated to avoid inflationary repercussions if the financial crisis has reduced potential output by more than currently estimated.

Figure 3. The energy-related spike in inflation is projected to fade away

Year-on-year percentage change



1. Headline inflation proxied by the private consumption deflator.

Source: OECD Economic Outlook 91 Database.

Innovations in the Federal Reserve's communications have also enhanced the effectiveness of monetary policy: news conferences are held four times per year, immediately after the conclusion of policy meetings; FOMC statements include more forward guidance about the anticipated policy path going forward, such as an explicit statement in March 2012 that the FOMC anticipates that economic conditions are likely to warrant "exceptionally low levels for the federal funds rate at least through late 2014"; a long-term inflation objective was announced (2% annual changes of the price index for personal consumption expenditures) as well as a longer-term goal for unemployment; and FOMC members' projections for the "appropriate" federal funds rate path are published.

While the overall effect of these measures is difficult to quantify, it is clear that markets are functioning better and longer-term interest rates have remained quite low. Nevertheless, many financially-stressed home owners have been unable to participate in existing mortgage modification programmes because of overly restrictive eligibility requirements and complicated application procedures. Efforts to expand eligibility and simplify the process would allow more households to reduce their debt burdens and would support the housing market recovery, thereby strengthening an important transmission channel of monetary policy.

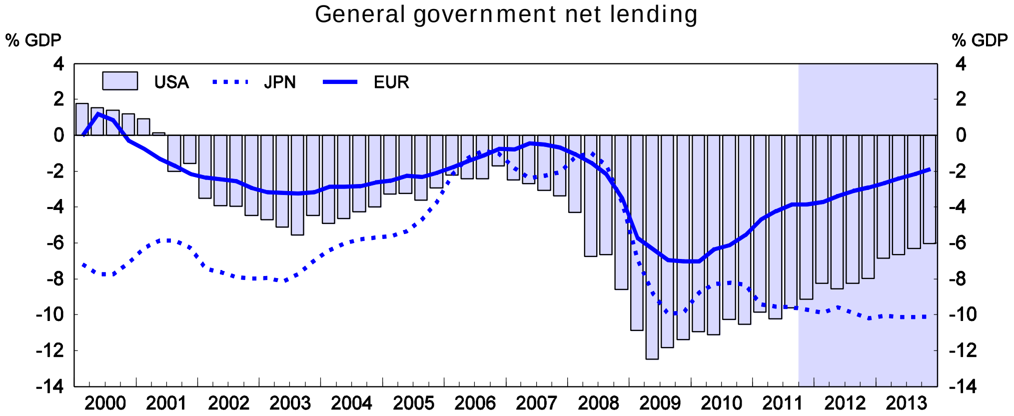
The United States has been active in its efforts to reduce the risks of financial crises. The monitoring of risks and financial supervision have improved noticeably following the passage of the 2010 Dodd-Frank legislation. Banks are now subject to greater scrutiny through the stress test requirements, and banks' capital requirements have become more stringent. Systemically important non-bank financial institutions will, upon designation, be supervised by the Federal Reserve Board, and could upon failure be taken into receivership by the Federal Deposit Insurance Corporation (FDIC). In addition, coordination among the various regulatory agencies has enhanced the government's ability to monitor risks from a broader, system-wide perspective. Furthermore, the Federal Reserve and other US agencies with financial stability responsibilities are engaged with regulators from other countries to find ways to address the vulnerabilities exposed during the crisis, under the auspices of the Financial Stability Board and the Basel Committee on Banking Supervision. Finally, the newly created Consumer Financial Protection Bureau (CFPB) is a major step aimed at protecting consumers from deceptive or predatory lending practices and ensuring that consumers have adequate information to make sound financial decisions. It is important that financial regulations are strictly enforced and that the full potential of these endeavours is realised.

The general government budget deficit has started to decline

As in other OECD countries, the US budget deficit increased sharply in the wake of the global financial crisis (Figure 4). With the economic recovery still weak, further fiscal stimulus was introduced and the budget deficit has declined only moderately during the last several years. Though helpful in the short term, deficits of the present size are causing debt accumulation at a pace that cannot be sustained over time. This is likely to put upward pressure on global interest rates as the economy recovers.

Figure 4. Fiscal deficits are large

General government net lending



Note: EUR is the 23 OECD European countries.

Source: OECD, Economic Outlook 91 Database.

Current legislation, if executed, builds in a large fiscal retrenchment in FY 2013. Adjusted for the cycle, the federal budget deficit would fall by 4.3% of GDP in FY 2013 (Table 2). Most of this consolidation is attributable to the expiry of various tax cuts and to the automatic spending cuts foreseen in the *Budget Control Act*. Such a large fiscal retrenchment would help to contain debt held by the public to 75% of GDP, but would be badly timed given the fragile state of the economy. The CBO projects that it would reduce GDP growth to 0.5% in 2013 and that the unemployment rate would rise again. On the other hand, avoiding fiscal consolidation (as in the CBO's alternative scenario, which represents a continuation of current policy) would result in a much higher and rapidly rising debt-GDP ratio (Figure 5). While bond-market investors have so far been willing to buy Treasury bonds at very low yields, this may not last forever, notably after the Federal Reserve's programme of security purchases has come to an end. The goal should therefore be to carefully balance the risks of insufficient consolidation against those of excessive short-term output costs.

Table 2. Federal budget deficits will fall sharply in the next two years if current law is not amended

Percentage of GDP

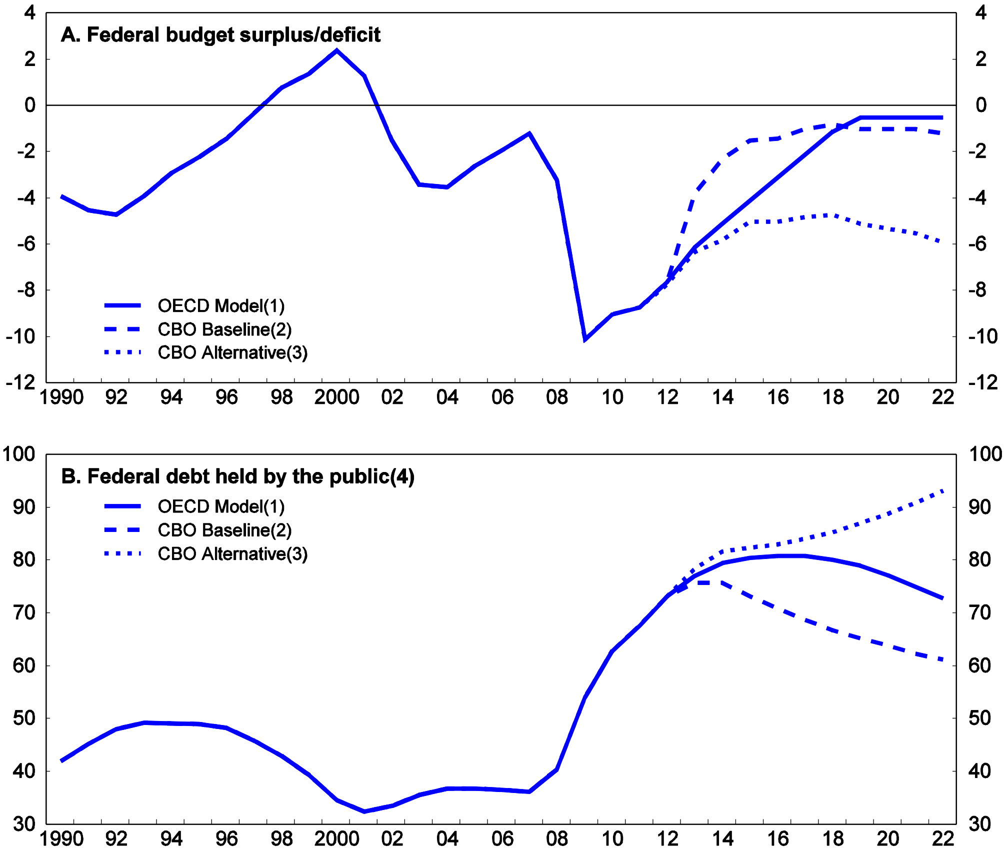
Federal fiscal year	Budget balance under current law[1]	Cyclical effect[2]	Cyclically-adjusted budget balance	Budget balances in the Administration's FY 2013 budget proposal[3]
2008	-3.2	-0.1	-3.1	-3.2
2009	-10.1	-2.2	-7.9	-10.1
2010	-9.0	-2.5	-6.5	-9.0
2011	-8.7	-2.3	-6.4	-8.7
2012	-7.6	-2.2	-5.4	-8.1
2013	-3.8	-2.7	-1.1	-6.1
2014	-2.3	-2.7	0.4	-4.2
2015	-1.5	-1.6	0.1	-3.1
2016	-1.4	-0.6	-0.8	-2.8
2017	-1.0	-0.2	-0.8	-2.5
2018	-0.8	0.0	-0.8	-2.5
2019	-1.0	0.0	-1.0	-2.8
2020	-1.0	0.0	-1.0	-2.8
2021	-1.0	0.0	-1.0	-2.9
2022	-1.2	0.0	-1.2	-3.0

1. Data up to fiscal year 2011, CBO (2012a) baseline beyond then.
2. As estimated in CBO (2012b).
3. CBO's preliminary analysis of the Administration's FY 2013 budget proposal. This analysis uses the same economic projections as in the CBO's baseline (*i.e.,* current law). In a subsequent analysis (CBO, 2012c), the CBO estimates that the Administration's budget would initially boost output relative to the baseline owing to lower taxes but subsequently reduce it because the deficits would exceed those projected under current law. The CBO estimates that allowing for these economic effects would reduce deficits under the Administration's budget proposal by USD 0 - 200 billion over 2013 - 2017 (from USD 3.2 trillion when these effects are not taken into account) but increase them by USD 100 – 400 billion over 2018 - 2022 (from USD 3.2 trillion when these effects are not taken into account).

Source: CBO (2012a, 2012b, and 2012c) and OECD Secretariat calculations.

Figure 5. Federal budget balances and debt held by the public under various consolidation scenarios

As a percentage of GDP



1. See footnote 7 in Table 1.
2. The CBO baseline assumes that current law remains unchanged (CBO, 2012b). This results in a large fiscal consolidation in FY 2013.
3. The CBO alternative scenario assumes that policymakers override current law so that certain temporary provisions continue, as has occurred repeatedly in the past. In other words, this scenario reflects the continuation of current policy as opposed to current law. The differences from current law are that: all expiring tax provisions (other than the payroll tax reduction) are extended; the Alternative Minimum Tax (AMT) is indexed for inflation after 2011 (starting from the 2011 exemption amount); Medicare's payment rates for physicians remain unchanged from current amounts; and the automatic spending reductions required by the Budget Control Act do not take effect (CBO, 2012b).
4. End of the year.

Source: Congressional Budget Office (2012b) and OECD calculations.

The debt-GDP ratio could be stabilised by the middle of the decade and reduced further beyond then with a smoother and more gradual pace of deficit reduction such as that illustrated by the OECD model in Figure 5. The penalty in terms of the peak debt-to-GDP ratio for this much smoother consolidation path relative to implementing the "fiscal cliff" is just 5 percentage points of GDP (80% instead of 75%), although it would take many more years than in the CBO baseline scenario to reduce debt to 60% of GDP (reached by the early 2020s).

The Administration's FY 2013 budget proposal provides for deficit reductions of 2% of GDP in both 2013 and 2014 and smaller reductions until 2018 (Table 2). This is broadly similar to the OECD path and strikes a good balance between short-term growth and long-term debt sustainability. Most of the deficit reduction comes from allowing some of the revenue increases in current law to occur (expiry of the payroll tax cut and, for high-income earners, of the Bush-era tax cuts). On the spending side, the caps in discretionary spending set in the Budget Control Act of 2011 are maintained and large cuts are made in funding for military operations in Afghanistan and related activities; the automatic spending cuts mandated by the Budget Control Act that are scheduled to begin in January 2013 are not, however, allowed to take effect. Looking further out, however, the budget deficit rises beyond 2018 owing to population ageing and rising health-care costs. As a result, the debt-to-GDP ratio could begin to rise again in the first half of the 2020s.

Consolidation measures should be chosen to enhance long-term growth prospects and reduce inequality

Lawmakers need to implement further fiscal consolidation measures when economic recovery is secure. Such measures should ideally enhance long-run growth prospects and reduce income inequality. For this purpose, there is considerable scope to widen tax bases by cutting tax expenditures that distort economic incentives and benefit mainly high-income earners. For instance, the Administration has proposed to limit the marginal income tax rate applicable for various exclusions and deductions to 28%, thus reducing their generosity for top-income taxpayers. The Administration has also proposed to achieve USD 1 trillion in discretionary spending savings over the next 10 years through the budgetary caps established by the Budget Control Act and a variety of other measures, including notably cuts in defence and military outlays (Overseas Contingency Operations). These proposals provide a good basis for implementing expenditure reductions. They also have the advantage of protecting spending, such as for research and education, that enhances long-term growth prospects.

In the medium to long term, the greatest challenge to fiscal sustainability comes from the federal health-care programmes. The CBO currently projects that federal health spending will grow by almost 2 percentage points of GDP over the next decade from this year's level of 5.5% of GDP, with further significant increases in prospect beyond then. The key driver over the coming decade is population ageing; beyond that, it is growth in expenditure per enrolee. The Affordable Care Act offers hope that cost growth can be permanently reduced, although there is much uncertainty about how effective it will be. The Medicare Trustees estimate that reforms foreseen in the Act will reduce annual average growth in Medicare spending per enrolee by 1.3% over the coming decade. If this proves not to be possible, policymakers will need to take further measures. One possibility in this regard would be to align the age of entitlement to Medicare benefits to the age of entitlement to social security benefits, although mechanisms (such as those in the Affordable Care Act) would need to be available to provide access to affordable health insurance for persons who are retired, and no longer covered by employment-based insurance, but not yet old enough to be eligible for Medicare.

The other main pressure in the long term comes from increasing social security outlays owing to population ageing, which are projected to increase from 5% of GDP currently to 6% of GDP by 2035 (CBO, 2011a). Such pressures could be eased by indexing the retirement age to life expectancy beyond 2025, when the current scheduled increases to age 67 will be completed, and introducing a higher degree of progressivity in after-tax social security pension benefits by taxing them as regular income, increasing the share of the benefit that is a lump sum and raising the cap on contributions.

In view of these challenges, it is essential that the US authorities achieve bipartisan commitment to a medium-term fiscal plan. Adopting a medium-term fiscal framework could entail fiscal rules or transparency requirements that would increase accountability for fiscal outcomes and reduce uncertainty.

Box 1. Recommendations for macroeconomic and financial policies

Key recommendations:

- Monetary policy should continue to support the recovery. Current legislation should be amended to avoid a sharp fiscal contraction in 2013, which would derail the recovery. Rather, fiscal consolidation should occur at a gradual pace, and should be implemented as part of a commitment to a medium-term framework to restore fiscal sustainability.
- Further measures to simplify procedures and expand eligibility for mortgage loan modification programmes are encouraged, as these programmes can aid financially-distressed home owners, facilitate recovery in the housing market, and strengthen an important transmission channel of monetary policy.
- Reforms to reduce the risk of new financial crises should be fully implemented. Banks should be encouraged to maintain high levels of equity capital, and regulators should continue efforts to develop improved analytical tools and information systems to monitor risks to the financial sector.

Other recommendations:

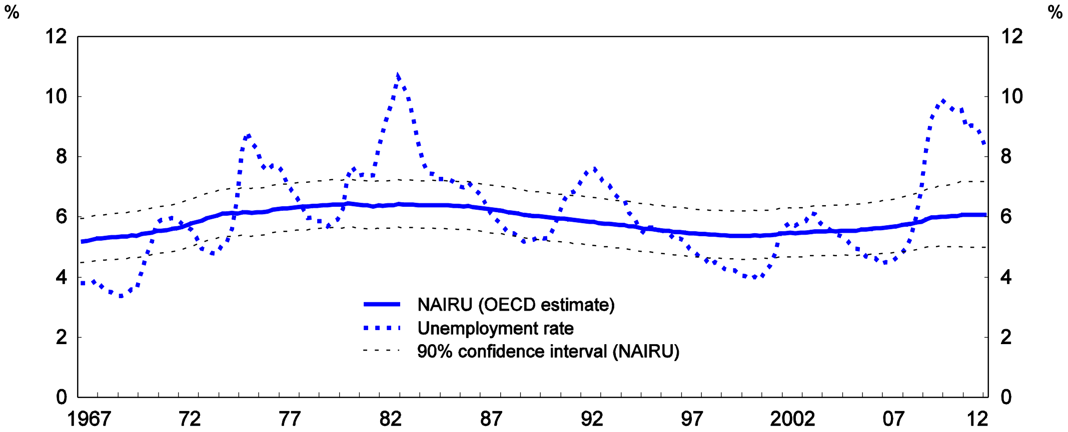
- Design fiscal consolidation measures that as far as possible enhance long-term growth prospects and that seek to reduce income inequality.
- Implement the cost-saving measures in the Affordable Care Act but if necessary stand ready to introduce further measures.

Labour market policies

The US labour market was hard hit during the economic downturn

The US labour market was extremely hard hit by the Great Recession. The unemployment rate shot up from its pre-crisis level of 4.4% of the labour force to a high of almost 10% in the fourth quarter of 2009 (Figure 6). With demand growth sluggish in the nearly three years since the peak was recorded, the normalisation of labour market conditions has been a slow process; the current episode marks the first time since the Great Depression that the US unemployment rate has been above 8% for more than two years. Although the recovery in private-sector job creation thus far has been substantial, OECD estimates indicate that the non-accelerating inflation rate of unemployment (NAIRU) has increased slightly, to around 6%, and that cyclical unemployment is still more than 2% of the labour force. However, structural unemployment may well already have risen more than this estimate would suggest, and there is a risk that it could increase still further given the high levels of long-term unemployment.

Figure 6. The unemployment rate has fallen substantially but is still high



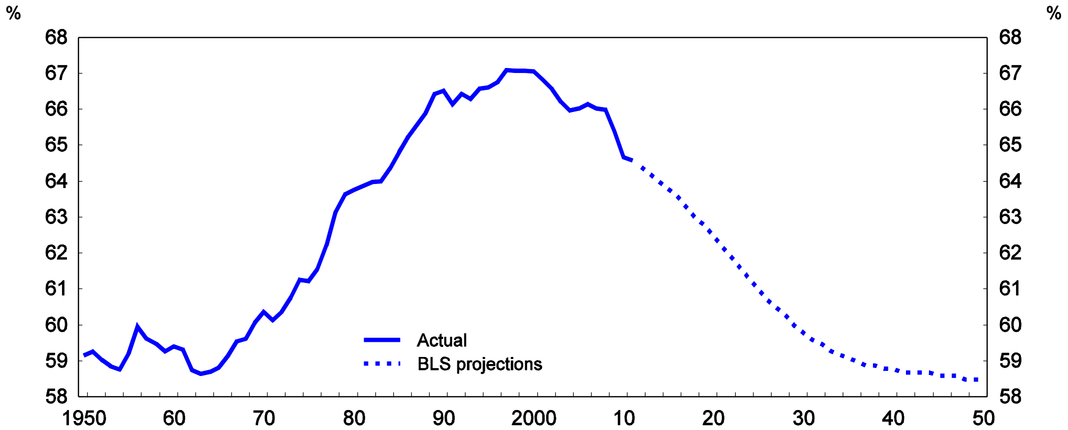
Note: More information about the NAIRU can be found in Guichard, S. and Rusticelli, E. (2011)

Source: OECD, Economic Outlook 91 Database and Analytical Database and OECD calculations.

Furthermore, labour market participation in the United States typically exhibits a moderate degree of cyclicality (Aaronson *et al.,* 2006a), yet it has edged down despite the increase in employment thus far in the recovery (Van Zandweghe, 2012). While part of these declines reflect the fact that ongoing weakness in labour demand has led some individuals to give up their job search, the recent behaviour has also occurred in the context of a longer-term decline in the participation rate, which will present challenges to the government in meeting its long-term fiscal objectives. Demographic factors, especially the ageing of the baby-boom generation, have been putting downward pressure on potential labour supply for more than a decade, and researchers have projected that these effects will continue in the years ahead (Figure 7; Toossi, 2012). In addition, participation rates for youth have been trending down since the mid-1990s, and this pattern accelerated during the recession. While rising school enrolments can partly explain the declines in labour market participation for youth, other contributing factors are more worrisome, such as the declining concentration of jobs in the middle of the skill distribution, which has led to increased competition from adults for entry-level jobs (Aaronson *et al.,* 2006b; Smith, 2011).

Figure 7. Demographic changes will continue to push down labour force participation

Actual and projected participation rate, age 16 and over



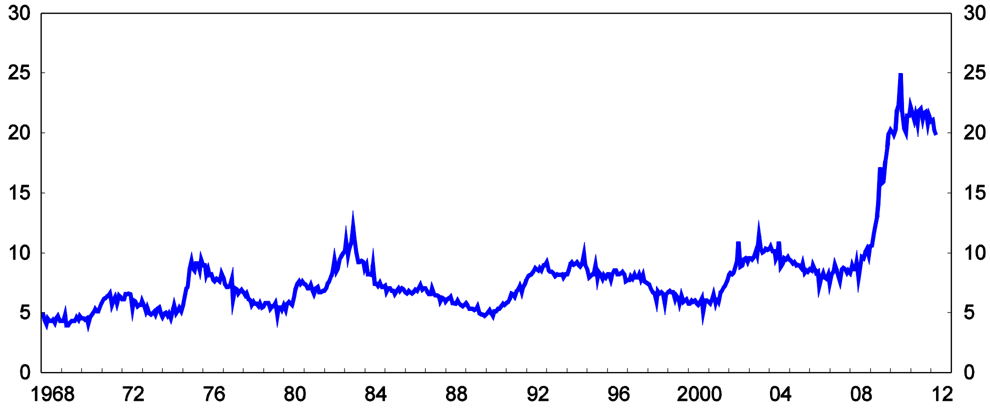
Source: U.S. Bureau of Labor Statistics projections through 2050 provided by Toossi (2012).

Long-term unemployment may be becoming structural

Another development in recent years that is highly unusual for the US labour market is the dramatic rise in long-term unemployment (Figure 8). From 2003 to 2007, prior to the onset of the crisis, the median duration of unemployment reported in the BLS survey of households was about 9 weeks. By early 2010, this figure had risen to almost 26 weeks, although since then it has edged down to around 20 weeks. The increased duration reflects the slow recovery and may also owe, in part, to the lengthened eligibility period for unemployment benefits. The persistence of high unemployment duration is worrisome because the experience of other OECD countries has been that long-term unemployment can become structural or lead to permanent reductions in labour force participation.

Figure 8. The duration of unemployment has risen dramatically

In median weeks



Source: U.S. Bureau of Labor Statistics, Current Population Survey Database 2012.

Unemployment benefits should be combined with a more "active" set of re-employment services

In response to the recession, and to provide income to the long-term unemployed, the period of eligibility for unemployment benefits was increased in steps from 26 weeks to 99 weeks. This year, the maximum period of eligibility moves down gradually to 73 weeks. These emergency unemployment benefits have provided a much-needed cushion for many of the most financially-stressed households. The programme is an effective tool for stimulating aggregate demand and boosting economic activity, because benefit recipients are likely to be liquidity-constrained households who have a high propensity to consume (Johnson *et al.*, 2006; Parker *et al.*, 2011). Although there is little evidence that the benefit extension has significantly reduced job search intensity, this could occur if such benefits remain in place long enough. To avoid this outcome, the duration of unemployment benefits should be pared back gradually toward its pre-recession baseline of 26 weeks as the labour market improves.

Furthermore, these "passive" forms of assistance would provide much greater value to the unemployed if they were offered in tandem with a more "active" set of re-employment services that can connect job seekers with job opportunities, facilitate job search, and guide individuals towards training and education. Job counsellors should be used to provide active case management, especially to those who appear to be at an elevated risk of becoming structurally unemployed. Evaluation studies show that additional job-search assistance and expanded opportunities for training can also be cost-effective (Card, *et al.,* 2009). Relative to other OECD countries, the United States currently spends little on these types of re-employment services (OECD, 2011a), and developing an effective activation system will require significantly more resources. Some steps have been taken in this regard. The American Recovery and Reinvestment Act of 2009 included additional funds for states to expand the services provided by One-Stop-Career-Centers, and the Middle Class Tax Relief and Job Creation Act of 2012 added a requirement that all Extended Unemployment Compensation (EUC) recipients receive eligibility assessments and re-employment services, including labour market information, skills assessments and a re-employment plan. Moreover, the Act introduced other innovative measures to move the unemployment compensation system in the direction of becoming a re-employment system, such as allowing the flexible use of unemployment benefits by individuals seeking to launch their own businesses or who are undergoing short-term, on-the-job training. The Administration's FY 2013 budget proposal included several other measures aimed at investing in a more comprehensive activation system, and these should be implemented in full. Additional efforts to integrate the existing programmes that provide income support, re-employment services and training are also encouraged, as the current system is very piecemeal. The development of a coherent system for activation services would also help ensure that scarce fiscal resources are directed toward the programmes that will generate the highest return.

Subsidies to employers for recruiting new employees are another effective way to raise the jobs intensity of output growth, and such measures should be considered in the short run. The 2010 Hiring Incentives to Restore Employment (HIRE) Act provided a tax credit for employers who hired individuals who had been unemployed more than 60 days, but the take-up rates for the credit were disappointing. The subsidy expired before the pace of job creation had become self-sustaining. Part of the problem was that the size of the credit was quite small. The programme also had several design features that limited its effectiveness in stimulating higher employment.

The tax credit proposed in the American Jobs Act (AJA) appears more promising than the HIRE Act subsidy because it is targeted on net increases in payrolls; research conducted by the OECD and others indicates that these types of marginal subsidies can stimulate job creation in a depressed economy (OECD, 2011a; Neumark, 2011). The AJA policy would be made more cost effective, however, if the tax credit were limited to net increases in employment and not wages, as labour supply on the employment margin is much more responsive to wages than labour supply on the hours margin. A second component of the AJA proposal was a separate USD 4 000 credit for hiring new employees who had previously been unemployed more than six months. But targeted credits like these are generally not recommended, as eligibility for the credit may transmit a negative signal to employers that offsets the positive effect of the credit (Dickert-Conlin *et al.*, 2000).

Disability programme reforms are needed to stem the tide of new enrolments

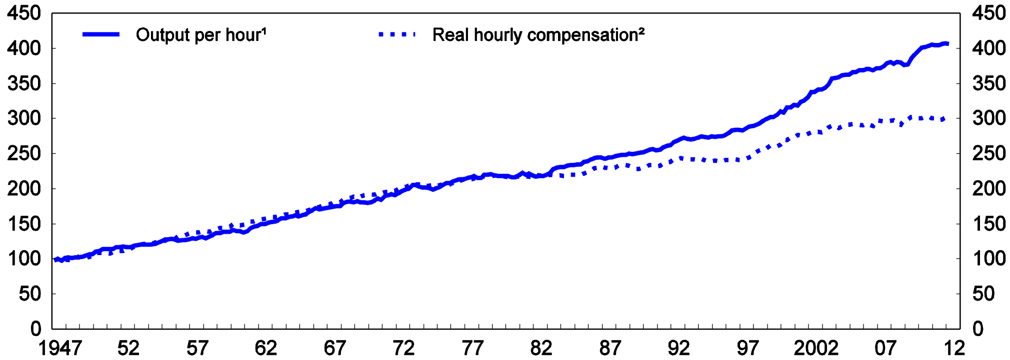
Another factor contributing to the decline in participation rates has been the dramatic increase in the number of people receiving disability benefits. The share of the working-age population between the ages of 20 and 64 enrolled in disability programmes rose from 3.6% in 1980 to 6.1% in 2007 and to 6.6% in 2010. Much of the increase in recent decades reflects a relaxation of eligibility restrictions and increased replacement rates, as well as an influx of disabled war veterans (Autor, 2011; Autor, Duggan and Lyle, 2011). Further increases in the number of applications for disability benefits are likely, mainly because there is often a considerable lag between the rise in unemployment during a recession and an upward ratchet in disability rolls. Efforts are needed to reduce the reliance on disability benefits because few of the recipients ever return to the workforce. Successful reforms that dealt with similar problems in the Netherlands can provide a useful model for establishing more stringent eligibility requirements and discouraging fraud (OECD, 2008a). In addition, measures such as workplace accommodation, rehabilitation services and partial income support could encourage more workers with disabilities to remain in employment (Autor and Duggan, 2010).

A longer-run concern is the slow growth in labour income for much of the population

Since the early 1980s, real compensation growth has lagged far behind the gains in labour productivity (Figure 9), partly reflecting higher growth in consumer prices than in producer prices. Separately, information on earnings by level of education show that while earnings for college graduates have held steady or increased slightly over this period, earnings for workers with lower educational attainment have declined, with the result that the college/high school wage premium surged from 35% in 1980 to 60% in 2005 (Goldin and Katz, 2008).

Figure 9. Hourly compensation has lagged behind the gains in labour productivity

Index base 1947=100



1. Output data are based on estimates of nonfarm business output in constant dollars from the National Income and Product Accounts. Hours data are from the Bureau of Labor Statistics.
2. Compensation includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and it reflects the adjustment of hourly compensation for changes in consumer prices. The price changes for recent quarters are based on the BLS Consumer Price Index for all urban consumers (CPI-U). For earlier periods consumer prices are based on the BLS Consumer Price Index research series (CPI-U-RS).

Source: U.S. Bureau of Labor Statistics, *Productivity and Cost Database 2012*.

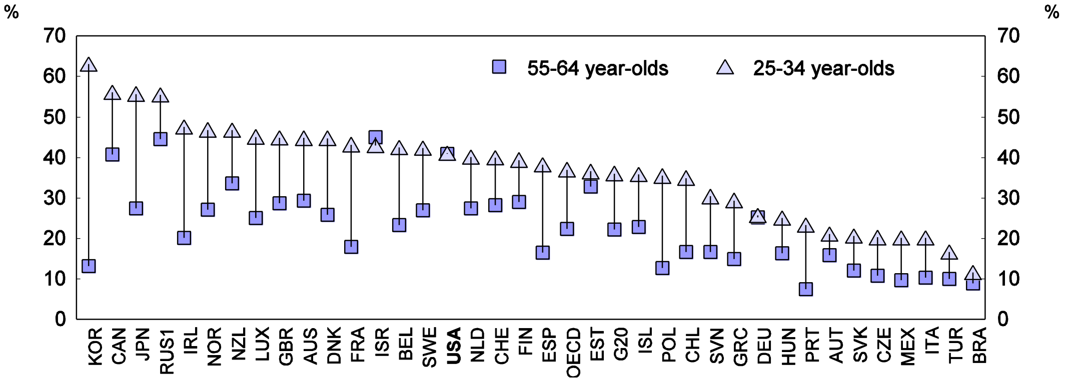
Progress in education attainment is critical to securing future gains in income

An important factor contributing to the rise in the college/high school wage premium is that the growth in the supply of tertiary graduates slowed sharply in the 1980s while the demand for skills continued to grow at more or less the same rate as before (Goldin and Katz, 2008). The slowdown in growth in tertiary attainment rates in the United States contrasts with the large increases in most other OECD countries, which began their transition to high rates of tertiary education attainment later. Indeed, tertiary attainment rates for older and younger cohorts are the same in the United States, a pattern in contrast to virtually all other OECD countries (Figure 10). As a result, whereas US tertiary attainment rates are amongst the highest in OECD countries for the older generation, they are exceeded in many countries for the younger generation, although US rates remain above the OECD average.

Tertiary attainment rates could be boosted by raising degree completion rates. These have increased somewhat in recent years, but still only 57% of full-time bachelor's degree-seeking students complete their degrees within six years of starting (U.S. Department of Education, National Centre for Statistics). Completion rates for community college degrees and for part-time students are considerably lower. Completion rates could be increased by making remedial education programmes more effective, shortening pathways to graduation, and by helping part-time students to reconcile work and study schedules (Complete College America, 2011).

Figure 10. US tertiary attainment rates have stagnated in recent decades

Population that has attained tertiary education



Note: Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education.

1. Year of reference 2002.

Source: OECD, Education at a Glance 2011.

Improving secondary school education so that more students are college-ready would also help to increase completion rates at the tertiary level. One half of students seeking an associate degree (a two-year degree from a Community College) require remedial education, with this proportion falling to 21% for those seeking a bachelor's degree (Complete College America, 2011). Students requiring remedial education have much lower completion rates than other students.

Educational reforms are needed to upgrade US secondary school student achievement. Based on practices in the top-performing countries in the PISA study, the OECD has identified several key elements necessary for high student achievement (OECD, 2011b). The educational system should define clear standards of competencies that students should achieve. Schools need the freedom to determine how to achieve these standards, and should be held accountable for the outcomes. The teaching profession also needs to be upgraded, both by raising its low pay relative to that for other professions with similar qualification levels to attract more able candidates - for example, a US high school teacher with 15 years of experience can expect to receive only 65% of the earnings of a tertiary-educated individual working in another profession, a proportion substantially below the 85% observed, on average, in other OECD countries (OECD, 2011c) - and by developing teachers' skills to identify students with learning difficulties and to propose pedagogical solutions for them.

The Administration has taken measures to promote these and other reforms, notably through the Race to the Top (RTT) programme. Launched in 2010, RTT encourages US states to raise their aspirations and change their organisational culture by: *i)* adopting internationally-benchmarked state-developed standards and assessments that prepare students for success in college and the workplace; *ii)* recruiting, developing, rewarding, and retaining effective teachers and principals; *iii)* building data systems that measure student success and inform teachers and principals how they can improve their practices; and *iv)* turning around the country's lowest-performing schools (White House, 2012; Office of Management and Budget, 2012).

Part of the reason that tertiary education completion rates are so low is that students drop out for financial reasons. Many individuals have difficulty financing their education because they need to support themselves and a family at the same time; furthermore, tuition has increased at an annual average real rate of 4% over the past three decades, outpacing family incomes and student loans by a considerable margin.Oliveira Martins et al. (2007) find that easing liquidity constraints on students could increase the US graduation rate by 1.5 percentage points, which is one of the largest increases achievable in this way among OECD countries.

Measures have been implemented recently that will help students and their families pay for college – for example Pell Grants have been increased and Congress extended until 2012 the Opportunity Tax Credit Award – but such measures should be taken further. Students would also benefit greatly from an expansion in other types of assistance, such as child care and other family support services, which could be made available to students at reasonable cost.

Community colleges are a cost-effective means of raising human capital

One of the most cost-effective approaches to raising human capital is to enhance the community college system, which provides an affordable and accessible opportunity to obtain postsecondary education. Federal government funding for these programmes is currently modest, as most direct federal funding for higher education goes to public four-year colleges and universities. And although previous studies have demonstrated that the payoffs for a community college degree are greatest when studies are concentrated in technical fields, these courses require expensive investments in laboratory or technology equipment, which are inhibited by funding constraints (Greenstone and Looney, 2011).

Local and regional businesses are a valuable, yet under-utilized, resource in raising the returns to educational offerings at community colleges. Colleges should encourage potential employers to provide inputs regarding their specific needs for skills and training, so that degree programmes and even individual courses can be tailored to the needs of the local job market. In addition, a combination of appropriate incentives and regulations could establish relationships among community colleges, regional technical schools, other postsecondary institutions, and employers that could expand opportunities for workplace training in the form of internships or shorter work placements. Efforts to encourage these types of programmes have been proposed in the Administration's FY 2013 budget, which calls for USD 8 billion in funding for the Departments of Education and Labor to support state and community college partnerships.

Advance the skills of high school graduates with high-quality vocational training

Of course, every individual has different aptitudes, and many will not go beyond a high-school education. In this context, the strong vocational component of the German and Swiss educational systems can provide useful models for improving the earnings and participation of lower-skilled workers, particularly youth. Germany's secondary education, for example, follows a dual system, in which the two-thirds of students who enrol in the vocational tracks alternate between a few days in school and a few days at the workplace. The system is notable for its success in enabling young people from widely varying social backgrounds to integrate the learning of academic skills with the mastery of job-specific skills (OECD, 2010a). Switzerland's highly developed vocational system is strongly market and employer driven; school and work-based learning are well integrated, and workplace training is not too company-specific (OECD, 2009a).

For many students, this practice-based, highly applied style of learning can be far more effective than studying classroom material with no obvious application to anything they know or care about. In addition, OECD research suggests that workplace training facilitates recruitment of employees because potential employers and employees get the chance to get to know each other and apprentices make productive contributions such that employers benefit directly from the training (OECD, 2011b). One might argue that the German or Swiss educational systems depend on an industrial structure that is very different from that of the United States, and thus is not easily transferable. But pilot programmes could explore how to adapt these effective school-to-work systems to the US context in ways that could produce major gains for employers, youth, and the educational system. Switzerland's apprenticeship-based vocational education programmes have been shown to pay for themselves, in the sense that benefits to most employers outweigh the costs (OECD, 2009a).

Box 2. Recommendations for promoting job creation and earnings growth

Key recommendations:

- Development of enhanced "activation" programmes would facilitate the return to work for many unemployed individuals and mitigate the risk of long-term unemployment becoming structural. A variety of proposals for training and re-employment services were presented in the Administration's FY 2013 budget, and these plans should be implemented without delay.

- Education and training are key to improving skills, reducing mismatches, and addressing the problem of slow wage growth. Efforts such as Race to the Top and measures to strengthen community colleges are steps in the right direction, but more could be done, such as reducing financial and other barriers to tertiary education and providing vocational training opportunities in secondary school.

Other recommendations:

- Strengthen and enhance the community college system, especially in technical fields and through collaboration with local employers.

- Offer high-quality vocational education in secondary schools with a substantial work-experience component, organised jointly with local employers.

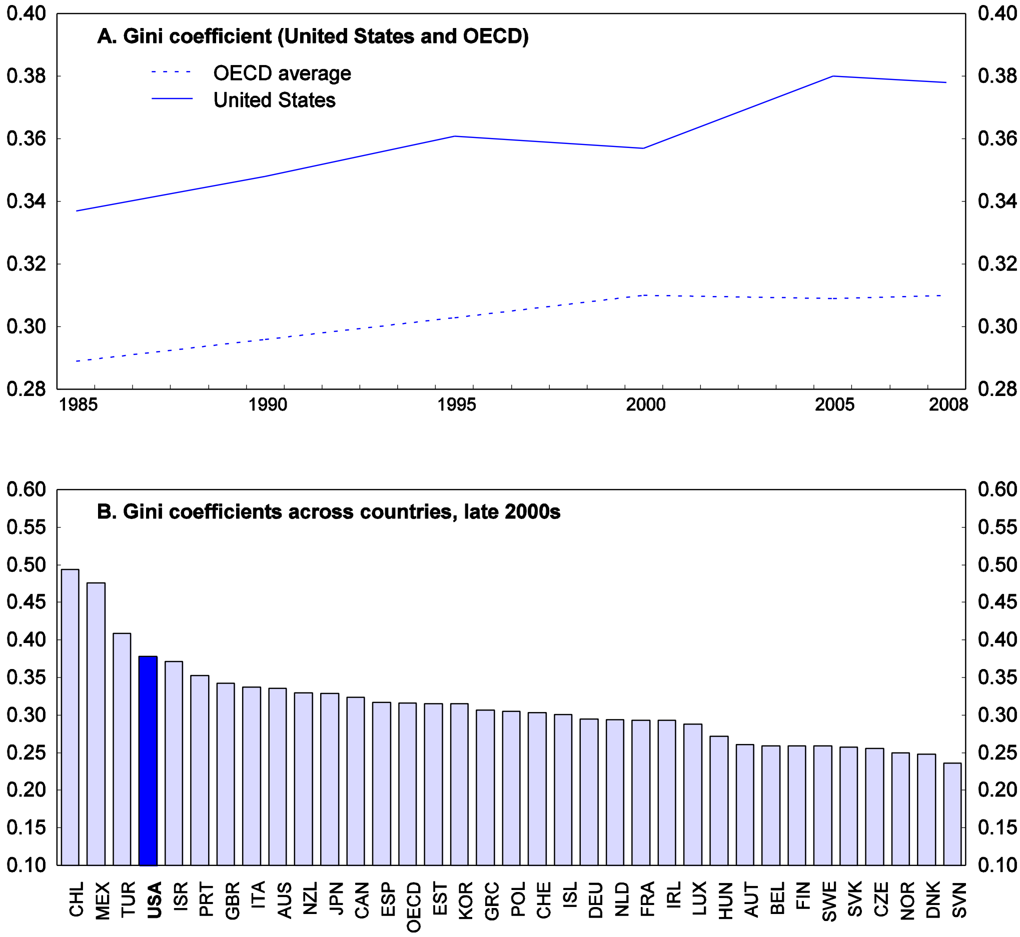
- Reduce reliance on disability benefits by making eligibility requirements more stringent, and by enhancing workplace accommodations, rehabilitation services and partial income supports.

Income inequality

Income inequality in the United States has continuously increased over the last four decades (Figure 11, Panel A), and the Gini coefficient for disposable income is the fourth highest in the OECD (Figure 11, Panel B). Incomes of the top 1% of earners have skyrocketed, and their share in total disposable income has more than doubled between 1979 and 2007 to reach nearly 20% (CBO, 2011b).

The high degree of income inequality implies a number of potentially undesirable consequences. High income inequality is associated with low intergenerational mobility (Krueger, 2012). Some have identified income inequality as one of the causes of the financial crisis since it may have encouraged subprime borrowing by households who tried to make up for their lack of income (*e.g.* Rajan, 2010). Inequality has been argued to be bad for health, education and innovation (Wilkinson and Pickett, 2009) and economic well-being (OECD, 2008b). The rise in income inequality is reflected in rising consumption inequality between 1980 and 2010 (Attanasio *et al.*, 2012). Impoverishment of some parts of the population may also result in support for anti-market and protectionist measures, while excessive concentration of wealth on a small group could lead to their having disproportionate political influence. In addition, there is no consensus that reducing inequality is harmful to economic growth (OECD, 2012). The remainder of this section outlines recommendations that could lower income inequality without having a harmful impact on economic growth.

Figure 11. Income inequality has increased to a high level



Notes: The Gini coefficients are after household taxes and cash transfers. For Panel A, the OECD average contains the following countries: Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Spain, Sweden, United Kingdom and the United States. The years indicated are proximate.

Source: OECD, Income Distribution and Poverty Database.

Several factors have contributed to a rise in income inequality

Higher labour earnings inequality accounts for some of the rise in income inequality. Greater openness to international trade has meant that low-income workers may have been affected disproportionately by import competition (Autor *et al.,* 2011), and the offshoring of activities in the tradable goods and services sectors has led to a fall in the demand for less skilled labour (Feenstra, 2010). This may have been reinforced by skill-biased technical change, which induced a shift in labour demand towards higher skills (Acemoglu, 2002; Levy and Murnane, 1992). While the demand for skilled workers has increased, the supply of such individuals has not kept pace, as indicated by the slowing growth of tertiary attainment (Goldin and Katz, 2008). Also, the significant decline in union membership since the mid-1980s (Card *et al*., 2004) and the reduction in the minimum wage in real terms (Lee, 1999) have arguably reduced the incomes of low earners.

The tax-and-transfer system has also contributed less to income redistribution over time. Compared to 1980, taxes and transfers decrease the Gini coefficient for disposable income by about 30% less (CBO, 2011b). The inequality-reducing power of both taxes and transfers has fallen. On the tax side, although the middle class have seen their taxes remain roughly constant, or slightly increase, average income tax rates have significantly declined for the most wealthy, especially the 1% top earners and, within this group, the relatively small number of households with extremely high earnings. On the transfer side, spending has become increasingly less targeted, reflecting the rising importance of public pensions and Medicare, which are not means-tested.

Education reform has the potential for a double dividend: higher growth and less inequality

The US education system is less effective than those of other countries in helping children realise their potential, as illustrated by a much greater impact of the socio-economic background on education achievement (OECD, 2009b). To reduce this impact, more resources need to be directed towards disadvantaged students. Currently, the United States is one of only three OECD countries that on average spend less on students from disadvantaged backgrounds than on other students (OECD, 2011b). Moreover, the most able teachers rarely work in disadvantaged schools in the United States, the opposite of what occurs in countries with high-performing education systems (OECD, 2011b). These resource allocations reinforce the disadvantages of social segregation, which results in children in poorer schools having lower educational expectations and outcomes.

The key to redirecting resources towards students in most need is to replace the local-property tax system of financing schools by state-level financing where this is not already so. Canada had similar arrangements but reformed them by moving school funding to the provincial level. This contributed to Canada now having one of the smallest influences of socio-economic background on achievement and having high average levels of achievement. While desirable, such a reform would likely be difficult for many states to implement owing to fierce opposition from residents of affluent localities.

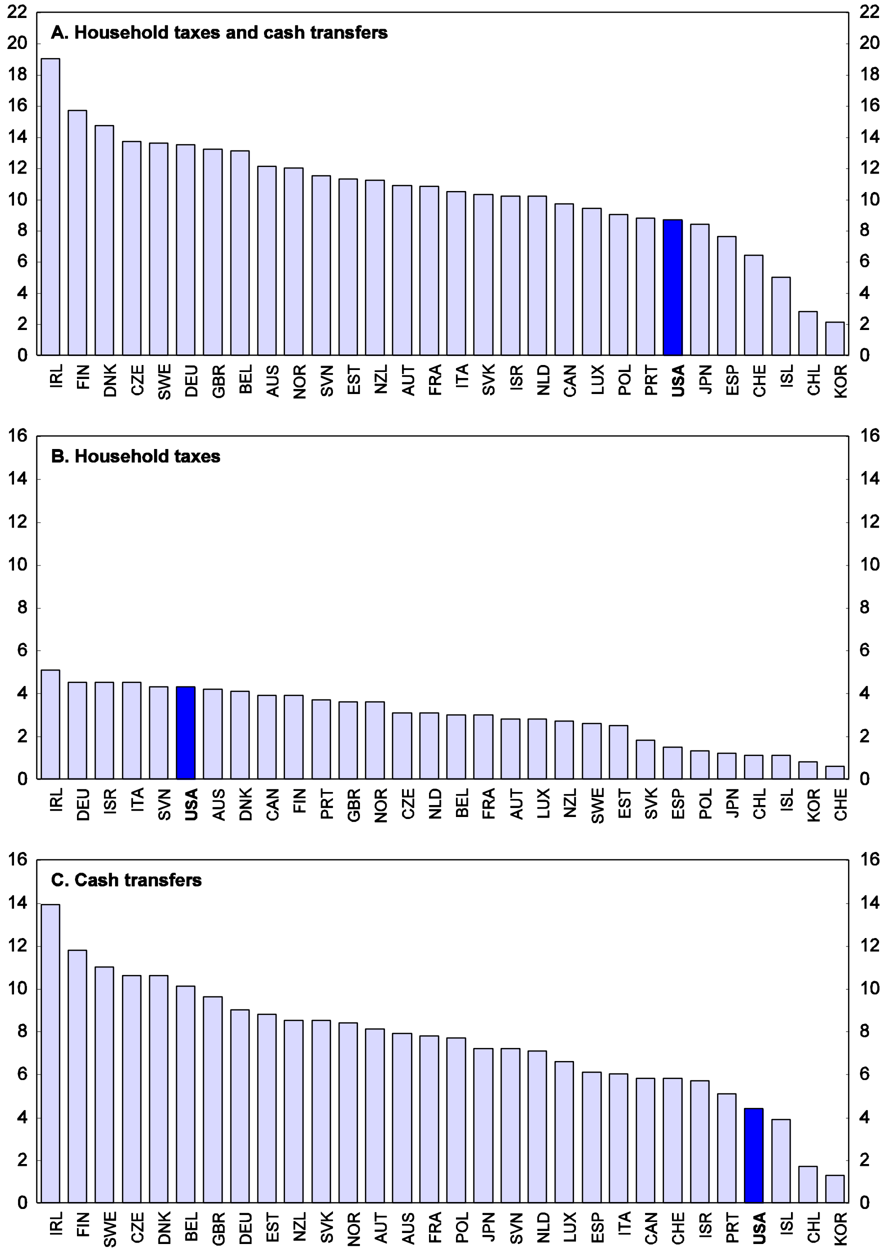
Some of the measures in the Administration's Race to the Top (RTT) programme would help to reduce the impact of socio-economic background on outcomes. In particular, RTT encourages states to implement reforms to turn around the lowest-performing schools and improve their programmes of early learning and care (White House, 2012). Many of the other reforms needed to improve education achievement in general (discussed above) would also likely benefit disadvantaged students disproportionately.

Reforms to the tax system can help in reducing income inequality

Income redistribution has also a role to play, though the US tax-and-transfer system reduces income inequality by less than in other OECD countries (Figure 12; Joumard *et al.*, 2012). This is due primarily to the relatively lower impact of the cash transfer system, which represents a smaller amount of spending relative to GDP than elsewhere and comprises several programmes provided to recipients irrespective of their income levels. Federal taxes on personal incomes reduce inequality significantly, reflecting average tax rates rising with income levels, though the most wealthy benefit from lower average tax rates mainly thanks to the lower taxation of capital income, which constitutes a significant source of their earnings (Figure 13).

Figure 12. The US tax system is effective in reducing inequality by OECD standards; but not the transfer system

Percentage point reduction in the Gini coefficient in the late 2000s



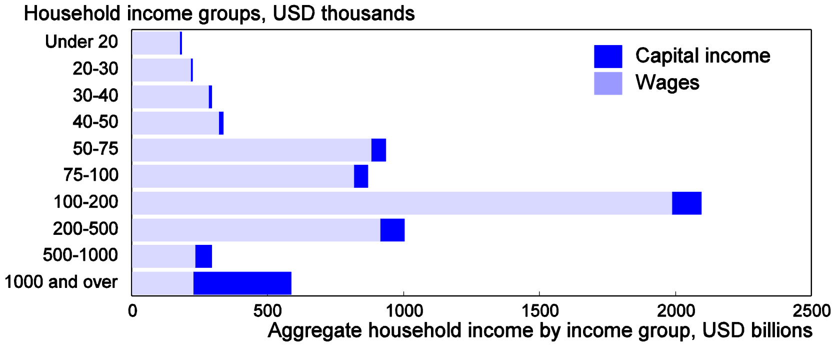
Note: Income inequality is measured by the Gini coefficient. The Earned Income Tax Credit enters cash transfers. In-kind transfers are not included.

Source: Joumard *et. al.* (2012), using the *OECD Income Distribution and Poverty Database*.

There are good reasons for personal income tax rates on capital income to be lower than on labour income, including the attenuation of the effects of double taxation of corporate income. Nevertheless, taxation of capital income often implies a trade-off between income redistribution and economic growth, but there are avenues to reform that are compatible with both objectives. Empirical research (*e.g.* Feldstein, 1995; Gruber and Saez, 2002) shows that wealthy households respond significantly to high marginal tax rates by reorganising their affairs to benefit from the way different types of income are taxed. Broadening the tax base by closing loopholes in the current tax code therefore has the potential to raise both efficiency and equity. As noted, this is particularly the case for the taxation of capital income: capital income is highly concentrated among wealthy households and represents a significant fraction of their total income (Figure 13).

Figure 13. A significant part of the income of the wealthy comes from capital, 2011

By annual income group, pre-tax [1, 2, 3]



1. Capital income consists of capital gains, dividend income and interest income.
2. The income concept used to place tax returns into income categories is adjusted gross income (AGI) plus: [1] tax-exempt interest, [2] employer contributions for health plans and life insurance, [3] employer share of FICA tax, [4] workers' compensation insurance, [5] non-taxable social security benefits, [6] insurance value of Medicare benefits, [7] alternative minimum tax preference items, and [8] excluded income of U.S. citizens living abroad. Categories are measured at 2011 levels.
3. Includes non-filers, excludes dependent filers and returns with negative income.

Source: Joint Committee on Taxation (Sept 2011), "Federal tax treatment of individuals", Senate Committee on Finance, JCX-43-11.

The unequal tax treatment of income from different asset classes (Table 3) undermines revenue collection, and therefore the effectiveness of the capital income tax as a redistribution instrument; at the same time it distorts the allocation of capital. Aligning effective tax rates (ETRs) on both debt– and equity-financed corporate investment and owner– and tenant-occupied housing investment would hence reduce avoidance opportunities for the wealthy and improve the efficiency of investment. Several options could be considered to achieve this, in the case of corporate investment, for example, through phasing out interest deductibility and treating interest income as equivalent to dividend income at both the corporate-and recipient levels. The returns to owner-occupied housing (imputed rents and capital gains) should ideally be subject to the same tax rates as income from corporate investment, while maintaining mortgage interest deductibility. Given the political and practical difficulties of taxing imputed rents experienced in many OECD countries, an alternative – though less desirable – option is to phase out or reduce the cap on mortgage interest deductibility for owner-occupied housing.

Table 3. Effective tax rates on real income vary widely across asset classes

Corporate investment:	
Debt-financed	-6.4%
Equity-financed	36.1%
Housing investment:	
Owner-occupied	-5.1%
Tenant-occupied	18.2%

Note: The effective tax rates account for federal but not state and local taxes and are hence somewhat lower than the actual effective tax rates.

Source: Congressional Budget Office (2005).

Raising the taxation of capital income would be conducive to equity, but it is likely to reduce efficiency. For example, the proposal by the Administration to raise the tax rate on dividend income from 15% to 45% (39.6% combined with other provisions) would significantly increase the ETR on equity income. As equity income is highly concentrated among the rich, this measure would be redistributive, but it would also amplify the existing disadvantageous tax treatment of equity-financed corporate investment compared to other investments. It would thus likely give rise to an increase in the distortions to the allocation of capital, while not reducing income inequality very much as it would encourage further the shifting of income toward less-taxed asset classes. Overall, CBO (2012c) finds that the various tax proposals contained in the Administration's FY 2013 budget would increase the marginal tax rate on capital income, with a likely negative impact on the capital stock.

A more growth-friendly approach to reduce income inequality would be to focus reform efforts on other provisions in the personal income tax system that favour households at the upper end of the income distribution. Some tax expenditures are justifiable on economic or social grounds, but several are not. For example, tax breaks to encourage the accumulation of individual private pensions could in principle be desirable, but in practice they frequently lead to a re-allocation of existing savings to retirement accounts and benefit primarily high earners (Toder, Harris and Lim, 2009). Such tax expenditures should therefore either be phased out or progressively more tightly capped, for instance by adopting a limit of 28% on the marginal income tax rate at which the relevant deductions (such as for owner occupiers' mortgage interest payments) may be claimed and exclusions (such as for employer-provided health insurance cover) permitted, as proposed by the Administration, which would be good for both efficiency and equity as well as reducing the deficit, as pointed out above. So-called carried interest in private investment funds is now taxed at the low capital income tax rate, but arguably should be taxed at the higher rate on labour income, although such a change would raise very little revenue (CBO, 2011a; Viard, 2008). On the administrative side, policies to improve tax compliance are likely to bear particularly on those with the highest incomes.

US revenues from the taxation of wealth transfers, *i.e.* gifts, estates and inheritances, have over the past decade continuously fallen and are now close to the OECD average. The United States taxes estates (levied on the donor) rather than inheritances (levied on the recipient). The estate tax is highly progressive relative to income; the top 10% of income earners pay virtually all of the tax and over half is paid by the richest 0.1% (Tax Policy Center, 2008). Its design nonetheless provides for avoidance opportunities by the wealthy. For example, capital gains on bequeathed assets are tax exempt. They should be taxed to avoid undermining the effectiveness of the gift and estate tax and providing undue incentives for old individuals to hold their capital until they die. Citizens also make use of trusts to avoid the estate tax, although wealth transfers to trusts incur gift duties beyond a certain level.

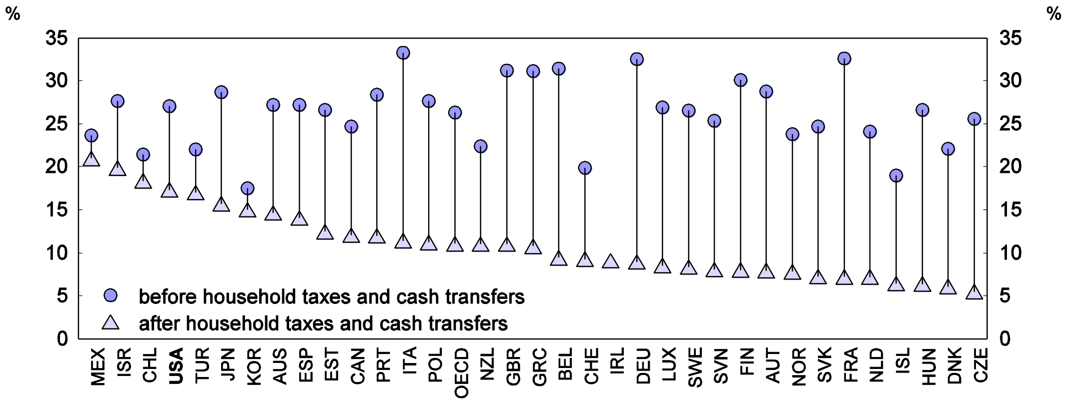
Most OECD countries, in contrast to the United States, tax inheritances rather than estates, and the past several decades have seen a shift away from estate taxes, as for example in Ireland. From the perspective of intergenerational mobility and equality of opportunity, taxing inheritances is preferable to taxing estates since what matters is how much a person receives from others, not how much a person leaves to others, and taxing inheritances would reduce income inequality if implemented in a revenue-neutral way (Batchelder, 2008).

Better targeting and simplifying of transfer programmes would help combat poverty

The government runs a multitude of transfer programmes with the objective of reducing income inequality and poverty. These can be grouped into *social insurance* (old-age and survivors' insurance, disability insurance, workers' compensation, unemployment insurance), *means-tested cash benefits* (Temporary Assistance for Needy Families, Supplemental Security Income, Earned Income Tax Credit) and *means-tested in-kind benefits* (Medicaid, Supplemental Nutritional Assistance Program, Housing Assistance, Head Start, Supplemental Nutrition Program for Women, Infants and Children, school food programmes). While these programmes significantly reduce poverty (*e.g.* White House, 2012; Ziliak, 2011), they do so less than in other countries: the relative poverty rate after taxes and cash transfers is 17%, one of the highest in the OECD (Figure 14; Pisu, 2012). Accounting for in-kind transfers further reduces poverty, and potentially more so than in other countries given the targeting of Medicaid to low-income individuals.

Figure 14. The tax-and-transfer system reduces poverty less than in other OECD countries

Relative poverty rate in the late 2000s[1]



1. The relative poverty rate is defined as the share of individuals with equivalised disposable income less than 50% of the median income of the whole population. Data for France, Ireland and the Netherlands refer to the mid-2000s.

Source: OECD, Income Distribution and Poverty Database and OECD calculations.

To combat poverty, the government should restore the inequality-reducing power of the transfer system that has been lost over time (CBO, 2011b). Ben-Shalom *et al.* (2011) find that the safety nets have increasingly tilted towards the disabled and elderly and away from the "deep-poor". An increased focus on those with low income levels, rather than on specific demographic groups, would help to ensure that the truly needy are reached. As well, simplifying the myriad of means-tested programmes, of which there are currently 82 distinct ones at the federal level alone (Haskins, 2011), would lower administrative costs and increase take-up, which is often low, reflecting the difficulty of understanding eligibility requirements (Currie, 2006). It would also reduce the scope for fraud and, if implemented smartly, improve work incentives. The United Kingdom, for instance, is in the process of introducing a thoroughgoing welfare reform; it involves combining the UK equivalent of Housing Assistance, Earned Income Tax Credit, Child Tax Credit, unemployment insurance and other welfare programmes into a universal credit (UK Department for Work and Pensions, 2010), with the reform broadly judged as likely to be positive (Institute for Fiscal Studies, 2011).

The United States is unique among OECD countries in relying on in-kind transfers for food and nutrition rather than simple cash transfers. While on the one hand some of these programmes have been shown to reduce poverty (*e.g.* Tiehen *et al.*, 2012), on the other they can restrict the recipient's choice in using the funds for other purposes and are an administratively expensive way of providing benefits.

Box 3. Recommendations to reduce income inequality and combat poverty

Key recommendations:

- Comprehensive education reform should provide more disadvantaged students with valuable skills that would help them to raise their incomes and increase social mobility. States relying heavily on local property taxes to fund public elementary and secondary schools should move to state-level funding to increase the resources and quality of teachers available to socially-disadvantaged students.
- A comprehensive approach to limiting tax expenditures that disproportionately benefit high earners is needed, for instance by limiting the marginal income tax rate at which deductions (such as for charitable donations) may be claimed and exclusions (such as for employer-provided health-insurance cover) permitted to 28%, as proposed in the Administration's FY 2013 budget.
- The unequal tax treatment of income from different asset classes increases inequality in some cases and distorts the allocation of capital. Equalizing the effective tax rates on debt-financed corporate investment and on housing at the higher rate on equity-financed corporate investment while simultaneously lowering the corporate tax rate would reduce income inequality (capital income is highly concentrated in higher-income households and tenants, to whom much of the current relatively high effective taxation on tenancy-occupied housing is shifted, typically have lower incomes than owner occupiers) and improve the efficiency of investment.
- The transfer system reduces poverty among specific groups, but leaves others unreached. An increased focus of eligibility criteria on income level is necessary. Simplifying the myriad of transfer programmes would lower administrative costs and increase take-up.

Other recommendation:

- To effectively pursue the objectives of intergenerational mobility and equality of opportunity, capital gains on bequeathed assets should be taxed at the standard rate and the estate tax should be replaced with an inheritance tax.

Innovation policy

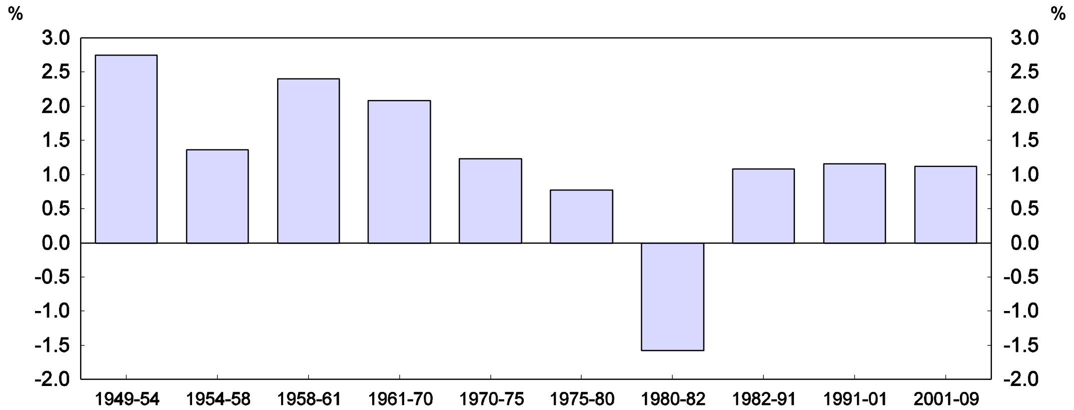
The US innovation system has many strengths but fissures have begun to appear

The strengths of US innovation system include world class research universities, firms that thrive in innovation-intensive sectors such as ICT, biotechnology, energy and agriculture, and a scale of both R&D and market demand for innovative products that is unmatched globally. In addition, the United States has competitive product markets and flexible labour markets, facilitating the reallocation of resources triggered by innovation to more efficient products and processes (creative destruction). However, fissures have begun to appear, as shown by some indicators, and revitalizing the dynamism of innovation has become a priority for US policymakers.

Innovation occurs at the point where knowledge is transformed into valuable new products or processes. While business enterprises or government agencies effect this transformation, it is built upon the flow of new knowledge from universities and research laboratories, most of which is funded by the Federal government. Government influences firms' incentives to innovate through policies that affect framework conditions such as competitiveness of product markets, flexibility of labour markets, development of financial markets, supply of skilled labour, strength of public research capabilities and taxation, most of which also impact government agencies' incentives to innovate. Framework conditions are generally strong in the United States although, as noted above, there are concerns about the supply of skilled labour.

One longstanding approach to measuring innovation performance is to infer it from Multifactor Productivity (MFP) growth (see for example US Department of Commerce, 2012; White House, 2012). Although MFP incorporates many factors, innovation is, nevertheless, arguably the primary source of long-run increases in MFP (Grossman and Helpman, 1991). The decline in MFP growth rates in business cycles (trough-to-trough, as identified by the National Bureau of Economic Research [NBER]) since the 1970s suggests that there has been some long-run deterioration in innovation performance (Figure 15), although MFP growth was higher in the last three business cycles than over 1975-82 and still compares favourably with that in other OECD countries.

Figure 15. Multifactor productivity growth has slowed since the 1970s[1]



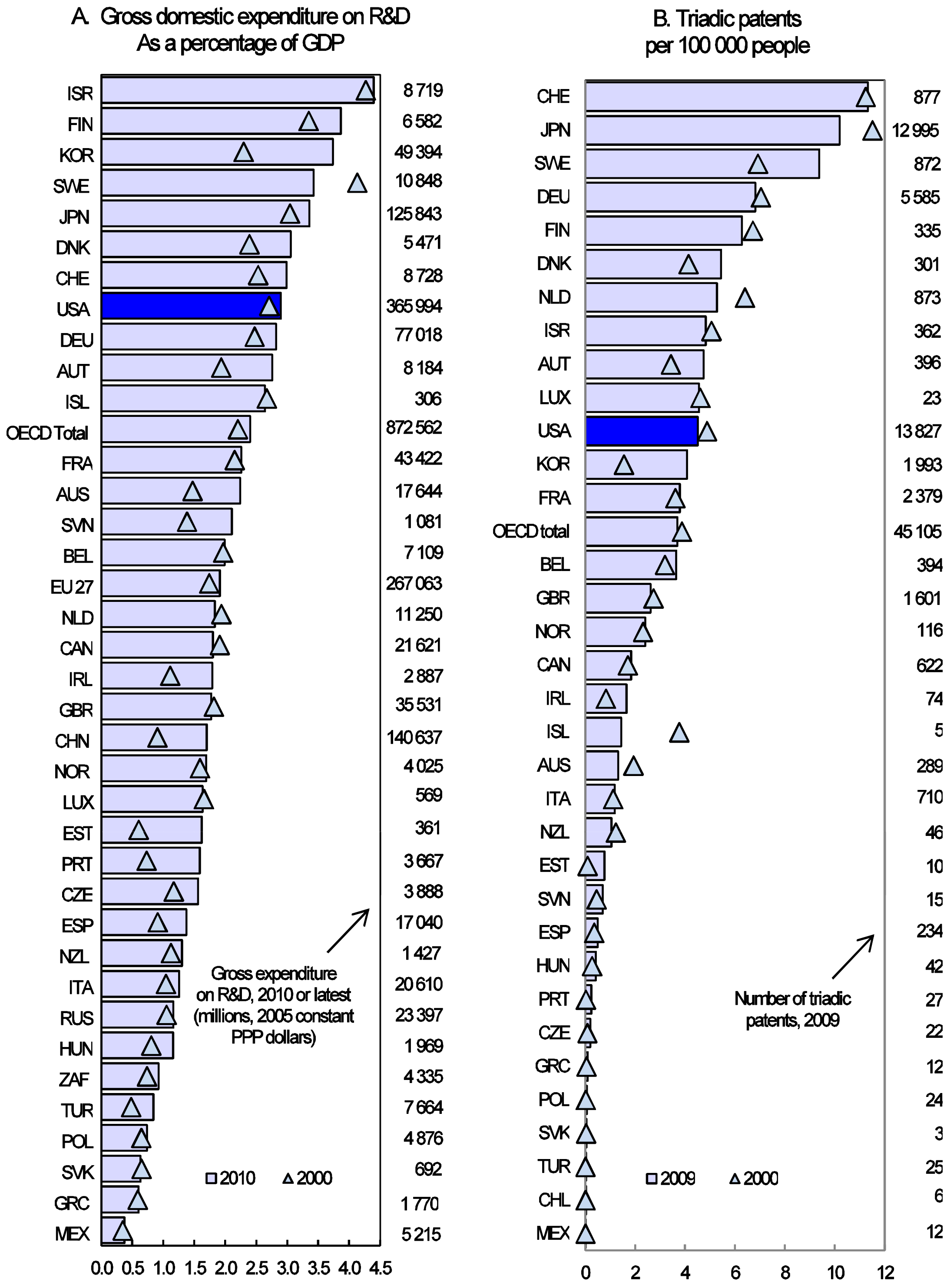
1. Non-farm business sector, annual average growth rate. Periods correspond to business cycles (trough to trough) identified by the National Bureau of Economic Research (NBER).

Source: US Bureau of Labor Statistics and OECD calculations

A more direct approach to measuring innovation performance is to conduct surveys of innovation outputs. These show that the proportion of US firms that report introducing a new or significantly improved product or process may be around the average for OECD countries (NSF, 2010; OECD, 2010b).

The other main approach to measuring innovation performance is the proxy method, where indicators such as patents or R&D spending are tracked as a proxy for the level or rate of change of innovation, although these measures too are necessarily imperfect (US Department of Commerce, 2012; White House, 2012). Innovation surveys show that firms that invest in R&D are much more likely to innovate than are other firms (NSF, 2010; OECD (2011d). Such measures point to high but stagnating levels of innovation activity, with the result that the United States is slowly slipping down the global rankings (Figure 16).

Figure 16. R&D spending and patent activity are slipping in global rankings but remain high[1]



1. In panel A, 2001 and 2010 for Sweden, Denmark and Norway, 2000 and 2009 for Japan, USA, China and OECD Total, 2000 and 2008 for Australia, Iceland and Switzerland, 2001 and 2007 for Greece, 2000 and 2007 for Mexico and 2001 and 2008 for South Africa.

Source: OECD, Main Science and Technology Indicators Database.

Government plans to increase federally-funded R&D should be implemented

Federal R&D spending has been increasing in the past decade and was temporarily boosted to 1.2% of GDP by the Recovery Act of 2009, the highest ratio in the OECD. However, such spending will fall sharply if the expenditure reductions mandated by the Budget Control Act of 2011 are implemented. In view of the high social rates of return on R&D and the need for stable funding for R&D to be most productive, reductions in the federal R&D budget should be as limited as possible. It would be preferable to cut non-R&D expenditures (including tax expenditures) for legacy or incumbent sectors, as this would facilitate the flow of resources to more productive uses. Ideally, Congress would go further by appropriating the funds approved in the 2007 America COMPETES Act, which called for doubling the funding of three key basic research agencies – the National Science Foundation (NSF), the Office of Science in the Department of Energy, and the National Institute of Standards and Technology – within a decade. Amongst other benefits, this would help to increase the probability of developing backstop technologies that would reduce future Greenhouse Gas (GHG) emissions abatement costs, although such investments would be more effective if they were complemented by pricing GHG emissions.

Further improving the patent system

Patent protection is one of the main ways in which government encourages innovation. Patents grant time- and scope-limited exclusive rights over the use of a new product or process, rewarding the patent holder and helping to address a possible market failure in the supply of technology and knowledge.

Some of the major concerns about the performance of the US patent system were addressed in the America Invents Act of 2011. In particular, this Act aims to reduce both review times and improve the quality of patents. The US Patent and Trademark Office (USPTO) will offer a new fast track for reviewing certain patents, enjoy additional resources for reducing the backlog of patent applications and improving the quality of patent awards, and provide new procedures for challenging patent validity that may allow patent disputes to be resolved more quickly and at lower cost (US Department of Commerce, 2012). The Act also replaces the "first to invent" rule by a "first to file" rule, which is more in line with international practice. At the same time, unlike many other jurisdictions, US law retains a 12-month grace period that gives patent priority to the first inventor to publish within a year prior to filing. This grace period may promote earlier disclosure of new scientific knowledge, helping to foster a more rapid rate of cumulative innovation.

A number of observers have expressed concern that patent policy and law do not adequately address the challenges posed by complex technologies, as was evident in the inter-industry debate over patent reform. While it is important to support the ability of patent holders to enforce their rights in a meaningful way, policy should work to minimise distortions created by hold-up opportunities and high litigation costs. In complex technologies, which are characteristic of the information and communications technology (ICT) sector, a patent holder may be able to demand disproportionate licensing fees from a producing firm using a minor patented function within a rich and sophisticated product because of the possibility of a court order forcing the entire product off the market. The growing activities of patent assertion entities (firms that hold patent rights, but licence them rather than using them to produce products) remain largely confined to the ICT sector, where patent holders can assert leverage over complex products by seeking injunctions (sometimes forcing products off the market) or damages. The calculation of appropriate damages for infringement is a hotly contested but unresolved issue in the patent reform debate, although US courts have been taking steps in an appropriate direction, such as rejecting a 25% rule-of-thumb royalty rule.

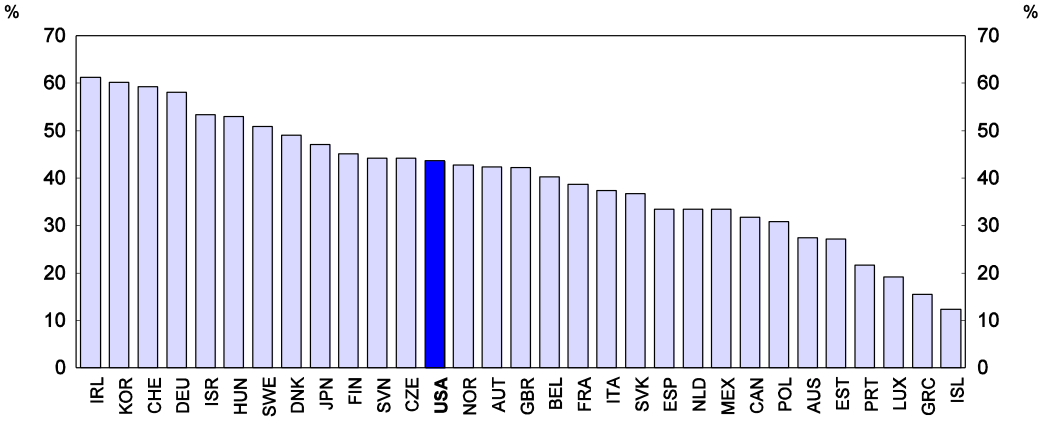
The availability of injunctions was limited by the Supreme Court (in its *eBay* decision), so patent holders now turn to the International Trade Commission (ITC) to seek exclusionary orders that prohibit importation of infringing products. This is a powerful weapon for ICT products because most of them are imported. This has led to costly dual proceedings as patent holders both sue in court for damages and seek exclusionary orders from the ITC.

In line with the Federal Trade Commission's (FTC) recent analysis (Federal Trade Commission, 2011), damages awarded for patent infringement should reflect the relative contribution of the patented function relative to the product as a whole based on what a willing licensee would have paid had they known about the patent ahead of time. While there is evidence that the courts may be moving to more rigorous assessment of damages, there remains a long way to go to get a consistent standard. Meanwhile, non-producing patent assertion entities retain considerable ability to hold up producing companies, while at the same time having no exposure to the patents that producing companies have in their arsenals. This has recently led large producing companies to spin off portions of their portfolios to patent assertion entities that can maximise payoffs from the patents and raise rivals' costs. The net effect is to impose growing costs and risks on companies engaged in innovation.

Strengthening innovation in manufacturing

The manufacturing sector has steadily shrunk as a share of GDP over recent decades, as in most other OECD countries. This is of concern from an innovation perspective because the sector accounts for 70% of privately funded business R&D and a significant proportion of business R&D performed in other sectors is done in close collaboration with or in direct service of manufacturing. This role is likely to be most important for high and medium-high tech sectors, which in the United States account for a middle-ranking share of manufacturing value added in comparison with other OECD countries (Figure 17).

Figure 17. The share of high- and medium-to-high tech manufacturing in total manufacturing value added in the United States ranks around the middle of OECD countries' shares (2009)



Data for Germany, Switzerland, Israel and France refer to 2008. Data for Norway, The United Kingdom and Poland refer to 2007. Data for Portugal refer to 2006. Data for Australia refer to 2005.

Source: OECD, STAN Database, 2012.

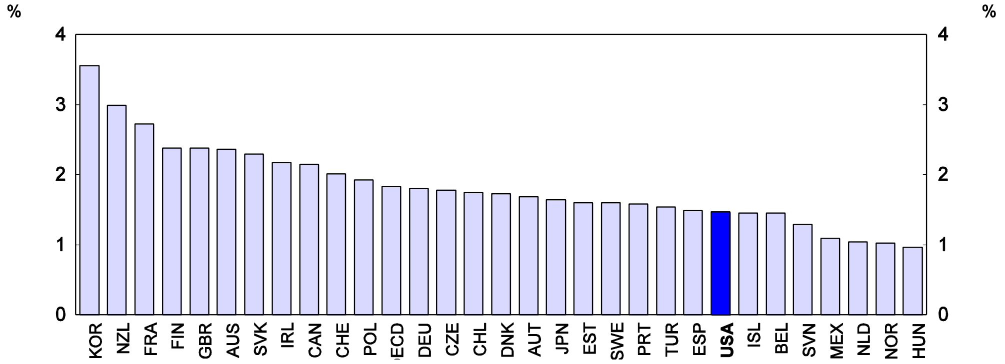
Economic studies show that there are agglomeration- (Greenstone, Hornbeck and Moretti, 2008) and knowledge (Keller, 2010; Branstetter, 2001) spillover benefits from manufacturing activity that benefit locations that have such activity. In light of these spillovers, measures to promote innovation in manufacturing are warranted, such as those proposed by the Administration in the FY 2013 budget. They include making the Research and Experimentation (R&E) tax credit permanent and less complicated, investing in transport infrastructure, creating a fund for community colleges to partner with businesses to train workers in a range of high-growth areas like advanced manufacturing, increasing financial support for basic research relevant to advanced manufacturing and creating a network of manufacturing institutes to facilitate the transfer of new technology from invention to product development to manufacturing at scale.

Reducing barriers to graduating in STEM disciplines and to immigration of STEM qualified personnel

STEM graduates are a key input to innovation. However, they represent a relatively low share of persons aged 25-34 years in employment in the United States (Figure 18). Moreover, below the PhD level the share of STEM in total graduations has not increased over the past decade (Table 4), despite wage data pointing to persistent, and at lower qualification levels, worsening shortages of STEM workers (Figure 19).

Figure 18. The number of STEM graduates in relation to total employment of persons aged 25-34 is relatively low in the United States (2009)[1]

Number of graduates (science and engineering) divided by the total number of 25-34 year-olds in employment, per cent



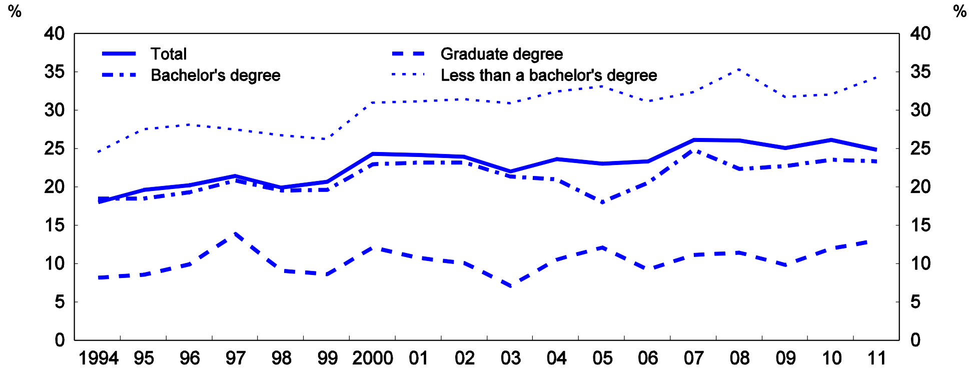
Note: Science-related fields include life sciences, physical sciences; mathematics and statistics, computing; engineering and engineering trades, manufacturing and processing, architecture and building.

1. Data for Australia and Canada refer to 2008.

Source: OECD, Education at a Glance 2011.

Figure 19. STEM workers receive a significant earnings premium over other workers with the same level of education[1]

Private wage and salary workers aged 25 and over



1. Regression-based hourly earnings premiums for STEM workers over non-STEM workers with the same level of education, 1994-2010. These earnings regressions (log earnings is the dependent variable) control for age (up to a fourth degree polynomial of age), gender, marital status, race and Hispanic origin, nativity and citizenship, educational attainment, metropolitan area, region, union representation, major industry, STEM occupation, time, and STEM occupation interacted with time (Langdon *et al.*, 2011). The regressions use Current Population Survey public use micro-data files of annual merged outgoing rotation groups from the National Bureau of Economic Research for 1994-2010.

Source: Langdon *et al.* (2011).

Table 4. STEM degrees have grown more slowly than non-STEM degrees, except at the doctoral level

2000-2009

per cent

	Annual average growth rate		STEM share of all degrees	
	STEM (1)	non-STEM	2000	2009
Doctoral				
All citizenships	5.7	1.5	62.0	66.6
Males	3.5	0.5	67.9	71.3
Females	9.5	2.5	54.5	62.0
US citizen/permanent resident	5.9	1.2	56.9	61.6
Males	3.1	-0.1	61.5	64.3
Females	9.9	1.9	52.0	59.5
Master's				
All	3.0	4.0	21.0	20.0
Males	3.4	3.6	28.3	27.9
Females	3.4	4.7	15.6	15.2
Bachelor's				
All	2.0	3.1	31.8	31.2
Males	2.2	3.1	36.9	36.3
Females	1.8	3.0	28.0	27.5
Associate's[2]				
All	2.9	3.8	5.4	5.0
Males	5.3	2.8	7.8	9.5
Female	-1.5	4.3	3.8	2.3

1. Excludes social scientists.
2. Associate's degrees are the degrees earned from two-year programmes offered by community colleges.

Source: National Science Foundation (2012), Science and Engineering Indicators; OECD Secretariat calculations.

Many students enter college intending to major in a STEM field but fewer than 40% of these students complete a STEM degree (President's Council of Advisors on Science and Technology, 2012). A major problem is that many students are not well prepared for STEM tertiary studies (OECD, 2009b). The Administration has launched a variety of initiatives to improve secondary-school student achievement in STEM fields. They focus on improving science and mathematics teachers' subject knowledge, pedagogical skills and compensation, as well as their evaluation and professional development. Efforts should also be made to increase female achievement, which lags further behind male achievement in these subjects than in most other countries (OECD, 2009b), and achievement of other under-represented groups (Cook and Kongcharoen, 2010). This would help to narrow gaps in STEM graduation rates and hence, increase the supply of STEM graduates and workers in STEM fields.

State governments should also encourage tertiary institutions to take measures to increase STEM completion rates. They should take greater responsibility for bringing first-year students up to the required level. To this end, remedial programmes need to be made more effective (Complete College America, 2011). For engineering, where some 50% of freshmen do not complete the programme, universities should consider introducing an intermediate year so that only students likely to be able to cope are accepted into engineering schools. Moreover, engineering programmes should include more applied content and teamwork in the early years as this has been shown to increase completion rates.

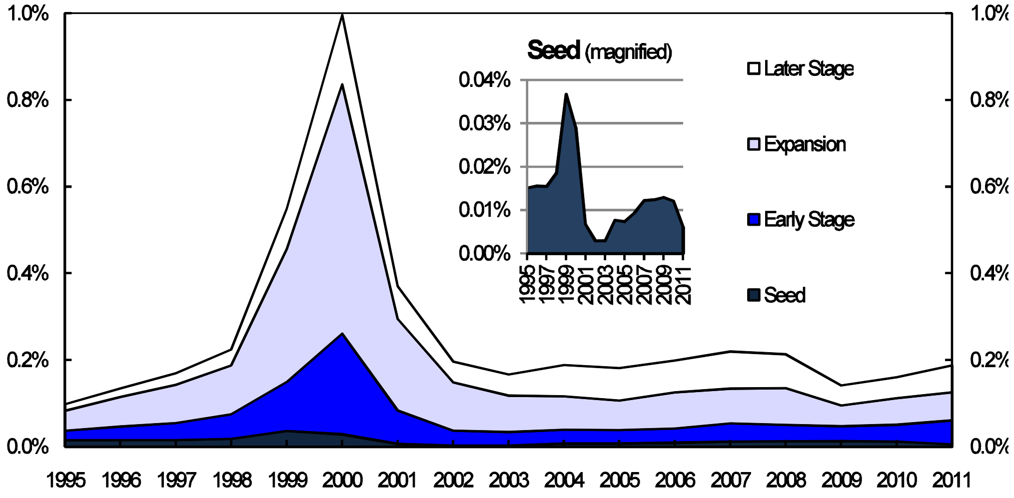
Action also should be taken to make it easier for graduates of US STEM programmes to gain permanent residence, which would expand the pool of highly skilled talent needed for innovation. At the PhD level, one third of STEM graduates are not US citizens or permanent residents (rising to almost 60% in engineering) (National Science Foundation, 2012). Most of these students plan to stay in the United States after graduating. Yet, they often encounter considerable difficulties as few visas are available per capita for citizens of large countries. The share of US visas that are employment based should be increased and the limits per country should be removed.

Encourage entrepreneurship and firm start-ups

The rate of new business start-ups has been declining over the past two and a half decades, resulting in fewer would-be entrepreneurs turning new ideas into new businesses (US Department of Commerce, 2012). One factor that may have contributed to this trend is that access to the seed/start-up capital on which innovation-based entrepreneurial firms depend has diminished (Figure 20). Following the "dot-com" bust of a decade ago, and reinforced by the economic downturn of the past three years, a greater share of high-risk capital is invested in later stage of development innovative firms, which tend to be less risky than start-ups, than before.

Figure 20. Seed/start-up financing has diminished

Per cent of GDP



Notes: Seed/Start-up stage: the initial stage. The company has a concept or product under development, but is probably not fully operational. Usually in existence less than 18 months.

Early stage: The company has a product or service in testing or pilot production. In some cases, the product may be commercially available. May or may not be generating revenues. Usually in business less than three years.

Expansion stage: Product or service is in production and commercially available. The company demonstrates significant revenue growth, but may or may not be showing a profit. Usually in business more than three years.

Later stage: Product or service is widely available. Company is generating on-going revenue; probably positive cash flow. More likely to be, but not necessarily profitable. May include spin-offs of operating divisions of existing private companies and established private companies.

Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, Data: Thomson Reuters.

A variety of approaches to alleviate these pressures are being publicly discussed and, in some cases, implemented. These include: federal R&D agencies financing very early-stage companies through add-ons to existing grants to support taking spin-offs to market;

creation of a new federal programme to provide competitive funding to support proof-of-concept research at universities; "crowd funding," under which entrepreneurs with ideas seeking financing use the Internet to advertise their ideas and to seek investments in small amounts from many small investors, as authorized in the Jumpstart Our Business Startups (JOBS) Act; and providing matching funds and various forms of non-financial assistance to entrepreneurs with good ideas that are worthy of financing but are at too early a stage, and therefore, too risky to attract private capital. Following careful analysis and evaluation, the federal government should implement the most promising of these approaches.

These proposals fall within the scope of the Startup America initiative launched by the Administration in 2011 to improve the environment for high-growth entrepreneurship. They would usefully be complemented by the other main aspects of this initiative: creating mentorship and educational opportunities for entrepreneurs; reducing regulatory barriers; and driving a nationwide effort to engage potential new opportunities in industries like healthcare, clean energy, and learning technologies (US Department of Commerce, 2012). The federal government also runs a number of programmes to promote high-growth potential entrepreneurship at the regional level, including through the development of innovation clusters.

Entrepreneurial activity could be further enhanced by limiting clauses in employment contracts that expressly prohibit individuals from competing with their former employers. Stricter enforcement of such contracts is associated with lower rates of entrepreneurial start-ups, innovation and employment growth (Samila and Sorenson, 2011; Marx *et al.,* 2010).

Building a better social safety net would also encourage firm start-ups by reducing the potential costs of failure for entrepreneurs and their families. The Health Care Act of 2010 makes an important contribution to improving the safety net for entrepreneurs and making small firms more attractive to work for by reducing the costs of individual or small group policies. Similarly, the reforms proposed in the FY 2013 budget to encourage small firms to offer qualified employee retirement plans for the first time will help to make working for small firms more attractive.

Establish a national innovation agency to recognize that innovation is a national priority

In contrast to other advanced economies, the United States does not have an agency responsible for national innovation policy. Instead, innovation policy (or strategy) is developed by the White House. While there have been institutions to provide line agency support for technology policy, such as the former Office of Technology Policy, they have lacked the scale and stature needed to sustain a disciplined evidence-based focus on innovation policy and strategy. At the very least, there should be permanent capacity to address the changing technological, market, and geopolitical environment, *i.e.,* expertise and institutional memory that carries forward from each Administration and Congress to the next. This resource would serve as a point of coordination for other agencies' activities and as a regular interface with experts in the private sector, state and local governments, think-tanks, academia, and other national governments.

Box 4. Recommendations for strengthening innovation

Key recommendations:

- Given the importance of R&D for innovation and economic growth, reductions in the federal R&D budget should be as limited as possible. Ideally, funds would be appropriated to continue on the path approved in the 2007 America COMPETES Act of doubling the budgets for three key science agencies within a decade.
- Patent reform (America Invents Act) needs to be taken further by ensuring that the legal standards for granting injunctive relief and damages awards for patent infringement reflect realistic business practices and the relative contributions of patented components of complex products.
- Tertiary education attainment in STEM fields needs to be increased. An important step in doing so is improving access to quality secondary education so that students are better prepared for STEM tertiary studies.

Other recommendations:

- Implement the measures proposed by the Administration to strengthen manufacturing competitiveness, including lowering corporate tax rates and discouraging corporations from shifting profits offshore, making the R&E tax credit permanent and less complicated and creating a network of manufacturing institutes to facilitate knowledge transfers.
- Encourage universities to take measures to increase STEM degree completion rates by improving remedial programmes and mentoring especially women and other under-represented groups, and in engineering, also by including more applied and team work in the early years.
- To increase the retention rate of foreign STEM PhD graduates, the share of visas that are employment based should be increased and restrictions on country of origin removed.
- Encourage innovation-based entrepreneurship by increasing access to capital that supports young firms and by limiting non-compete covenants in employment contracts.
- Establish a national innovation office to increase coherence and continuity in implementation of the national innovation strategy.

Chapter summaries

Chapter 1. Labour market policies

Although job creation has improved, the effects of the recession on the labour market remain severe. Unemployment duration is still extremely high, and many have withdrawn from the labour market altogether. Because the weakness is largely cyclical in nature, policy makers should place a high priority on supporting aggregate demand in the short term. Even so, policies are needed to help individuals return to work, as there is a risk that high long-term unemployment and weak labour market participation could evolve into structural problems. Greater emphasis should be put on activation measures that help individuals search for jobs more effectively or find adequate training programmes. In the longer run, education and training are key to raising the skills and wages of the workforce. In this regard, educational reforms are needed to increase student achievement at all levels. High-quality vocational training can also be used to advance the skills of high-school graduates. College completion rates could be improved by reducing financial and other barriers to education, and enhancing the community college system would be a cost-effective way to provide more individuals with an affordable way to obtain tertiary education. Disability insurance reforms are needed to reduce dependency on these programmes and encourage participation in the workforce.

Chapter 2. Strengthening innovation

The US innovation system has many strengths, including world class research universities and firms that thrive in innovation-intensive sectors. However, fissures have begun to appear, notably in the areas of human capital development, the patent system and manufacturing activity, while public investments in R&D and research universities are at risk of being curtailed by budget cuts. Revitalizing the dynamism of innovation has become a priority for US policymakers. To this end, it is important that federal and state governments sustain financial support for knowledge creation. The US workforce's skills will need to be upgraded, especially in STEM fields, and measures taken to provide more favourable framework conditions for developing advanced manufacturing in the United States. While the recent patent reform is a big step in the right direction, patent reform needs to be taken further by ensuring that the legal standards for granting injunctive relief and damages awards for patent infringement reflect realistic business practices and the relative contributions of patented components of complex technologies.

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of the United States were reviewed by the Committee on 14 May 2012. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 04 June 2012.

The Secretariat's draft report was prepared for the Committee by *David Carey, Wendy Dunn, Oliver Denk, Robert Hagemann, Christopher Hill and Brian Kahin under the supervision of Patrick Lenain. Research assistance was provided by Valery Dugain and Jérôme Brezillon.*

The previous Survey of the United States was issued in September 2010.

Further information

For further information regarding this overview, please contact:

Patrick Lenain, e-mail: Patrick.lenain@oecd.org; tel.: +33 1 45 24 88 07;
or David Carey, e-mail: david.carey@oecd.org; tel.: +33 1 45 24 87 29;
or Wendy Dunn, e-mail: wendy.dunn@oecd.org; tel.: +33 1 45 24 87 32;
or Oliver Denk, e-mail: oliver.denk@oecd.org; tel.:+33 1 45 24 95 78.

See also *http://www.oecd.org/eco/surveys/United* States.

How to obtain this book

This survey can be purchased from our online bookshop: *www.oecd.org/bookshop*.

OECD publications and statistical databases are also available via our online library: *www.oecdilibrary.org*.

Related reading

OECD Economic Surveys: *OECD Economic Surveys* review the economies of member countries and, from time to time, selected non-members. Approximately 18 Surveys are published each year. They are available individually or by subscription. For more information, consult the Periodicals section of the OECD online Bookshop at *www.oecd.org/bookshop*.

OECD Economic Outlook: More information about this publication can be found on the OECD's website at *www.oecd.org/eco/Economic_Outlook*.

Economic Policy Reforms: Going for Growth: More information about this publication can be found on the OECD's website at *www.oecd.org/economics/goingforgrowth*.

Additional Information: More information about the work of the OECD Economics Department, including information about other publications, data products and Working Papers available for downloading, can be found on the Department's website at *www.oecd.org/eco*.

Economics Department Working Papers: *www.oecd.org/eco/workingpapers*

OECD work on the United States: *www.oecd.org/United* States.