

Research Paper

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Syria's Economy

Picking up the Pieces



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Summary

- The impact on the Syrian economy of four years of conflict is hard to quantify, and no statistical analysis can adequately convey the scale of the human devastation that the war has wrought. Nevertheless, the task of mitigating the effects of the conflict and planning for the future requires some understanding of the core economic issues.
- Syria's economy has contracted by more than 50 per cent in real terms since 2011, with the biggest losses in output coming in the energy and manufacturing sectors. Agriculture has assumed a bigger role in national output in relative terms, but food production has fallen sharply as a result of the conflict.
- The population has shrunk from 21 million to about 17.5 million as a result of outward migration (mainly as refugee flows) and more than a quarter of a million deaths. At least a third of the remaining population is internally displaced.
- Inflation has averaged 51 per cent between January 2012 and March 2015, according to the monthly data issued by the government, and the Syrian pound has depreciated by about 80 per cent since the start of the conflict.
- The government in Damascus continues to function in the guise of a national administration in respect of setting budgets, managing prices and providing services such as electricity, but its institutional integrity has been eroded.
- A war economy has emerged in which groups such as ISIS, the Kurdish PYD and rebels in the northwest and the south have established autonomous economic spheres, and in which the role of international aid in sustaining the population has assumed increasing importance.
- The Assad regime has received critical economic support from Iran in the form of oil supplies and credit to enable imports of commodities and equipment. However, Iran is setting political and economic conditions for continuing to provide such aid.
- The military advances both by ISIS and by anti-regime rebels in early 2015 have put further pressure on Assad, including on the economic front. As the conflict enters a new phase, fresh economic challenges will emerge, including the task of planning for its aftermath.

Introduction

The Syrian economy has been devastated by conflict to an extent that defies comprehensive numerical analysis. Nevertheless, any meaningful assessment of the Syrian crisis requires an understanding of the economic context. This study finds that, after four years of conflict, Syria's economic output – as measured by gross domestic product (GDP) at constant prices – has more than halved in real terms. This comes in a context in which the country's population has shrunk from 21 million to approximately 17.5 million as a result of outward migration (mainly refugee flows) and more than a quarter of a million deaths. More than one-third of the remaining population is internally displaced.¹

The conflict has pervaded all aspects of the economy. Agriculture has assumed a dominant position in overall production as other sectors have been devastated, but farm output has also been severely affected. Meanwhile, oil production under state control has dwindled from 387,000 barrels per day (b/d) to less than 10,000 b/d, depriving the government of one of its main sources of revenue. Islamic State of Iraq and Syria (ISIS) controls oilfields with the capacity to produce some 60,000 b/d, although its refining operations in particular have been impaired by coalition airstrikes. Most of the other oilfields are located in areas under Kurdish control. Government-controlled refineries have been supplied with oil under an Iranian credit line to allow them to produce sufficient fuel for regime-controlled areas.

The majority of Syria's power stations run on natural gas. Effective electricity generation capacity has fallen by more than 70 per cent since 2011. This is despite the fact that natural gas production, by official data, reached a record level in 2011 as a result of the start-up of two major projects between Palmyra and Homs. The conflict saw production fall by around a third by 2014. ISIS gains on the ground threaten to exacerbate the situation: should the group seize control of the area to the west of Palmyra, electricity production may suffer a further significant fall. Moreover, the capture of Palmyra by ISIS has put the government's phosphate exports – worth some \$100 million in 2014 – at risk.

Iran has assumed a dominant position in Syria's trade relations, by virtue of its crude oil and other credit and investment programmes. Imports from Turkey fell sharply in 2012 and 2013 but have since recovered, partly as a result of the aid supplies through Syria's northern border and partly as a result of new trade relationships – including sales by Syrian companies that have established themselves in eastern Turkey.

The government of Bashar al-Assad has reined in subsidies on fuel and food as its budget operations have been undermined by the loss of oil revenue. The fiscal deficit (excluding subsidies) stands at 20 per cent of GDP by the government's reckoning, which it has sought to finance largely through borrowing from the central bank and state-owned commercial banks. It is important to note that economic grievances, including popular resentment at market-oriented reforms, played a part in the 2011 uprising against the regime in Damascus. Although they were not a determining factor, increased poverty and inequality alongside the rise of a new wealthy business elite made for a

¹ According to the office of the UN High Commissioner for Refugees (UNHCR), as at 31 May 2015 there were some 3.98 million registered refugees, including 2.2 million Syrians registered by UNHCR in Egypt, Iraq, Jordan and Lebanon, and 1.7 million Syrians registered by the government of Turkey (see <http://data.unhcr.org/syrianrefugees/regional.php>). As at July 2014 the number of internally displaced persons was put at 6.52 million (see <http://www.unhcr.org/pages/49e486a76.html>). However, actual numbers are believed to be higher.

combustible mix. The conflict has served only to exacerbate the situation: inflation surged to 120 per cent in mid-2013; and although it eased over the following 12 months, it began to rise once again in late 2014. The value of the Syrian pound has fallen very sharply as Syria has felt the impact of both the conflict and UN sanctions. As at June 2015, the official exchange rate had depreciated by about 78 per cent since 2011, and the black market rate by some 83 per cent.

Despite the carnage and destruction of the past four years, Syria's economy and its administrative institutions have continued to function. However, this state of affairs is increasingly in jeopardy: while the regime continues to have an institutional presence of some sort across most of the country, such authority is ever more eroded as it loses ground to opponents that have all developed administrative structures in the areas that they control.

With the conflict showing no sign of abating, it is clear that the relationship between the state of the economy and its underlying institutions on one side, and the political and military position of the Assad regime on the other, will be a critical element in the conflict's evolution. During the first half of 2015 the regime has shown increasing signs of strain on both the military and the economic fronts. This gives rise to the question as to whether a dramatic worsening in the economic situation may be the catalyst for the regime's military collapse or for an externally imposed political settlement against Assad's wishes, or whether further military setbacks might be the catalyst for the regime's economic collapse.

About this paper

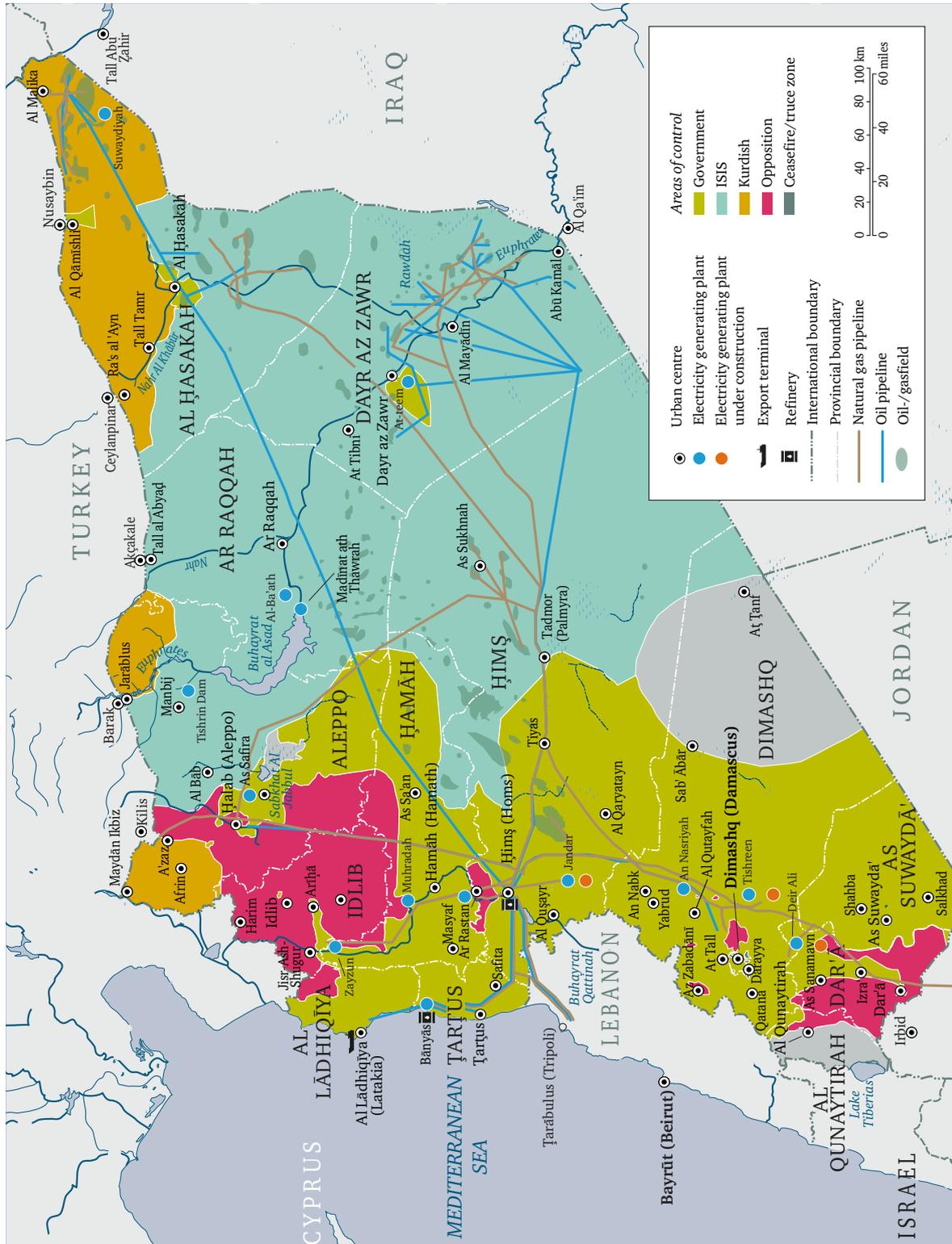
The paper will present the main economic themes in Syria at the time of the March 2011 uprising, including Syria's position in and interactions with other regional economies. It will go on to chart economic developments over the subsequent four years, making use of data that the Syrian government has continued to update – such as on the exchange rate, inflation, energy production and consumption, administered prices, and corporate financial statements from banks and companies still reporting to the Syrian Commission on Financial Markets and Securities. Third parties, such as the UN Food and Agriculture Organization (FAO) and Syria's trading partners – in particular Turkey – have also provided valuable data on the performance of the Syrian economy during the conflict. The paper will also draw on economic models that have been elaborated by other researchers, in particular the Syrian Center for Policy Research (SCPR).

Using official data as a reference point only gives a partial picture of the Syrian economy. Overhauling Syria's state statistical agencies was one of the processes initiated by the pre-uprising government, which had a mandate to effect a transition to a social market economy, but it had made limited headway by 2011. Moreover, the conflict itself has created new economic realities, the starkest of which has been the displacement or death of more than half of the population. The 'war economy' has in effect been grafted on to pre-conflict smuggling and racketeering networks, and as such this parallel economy has greatly expanded. The capture of territory by rebel groups has spawned new, semi-autonomous zones of economic influence, the largest of which is the domain of ISIS. Aid – whether provided by the UN; by the Assad regime's principal backers, Iran and Russia; or by donors to rebel groups – has had a massive impact on patterns of trade and public finance. Syria's Kurdish minority has developed its own systems of governance in a region containing some of the country's most productive farmland and largest oilfields. The Syrian private sector, for its part, has been forced to adapt, for example through shifting operations from conflict zones to more secure areas of the country, or by relocating to neighbouring countries – in particular to Turkey.

Syria's macroeconomic indicators and the dismal socio-economic trends showing increases in poverty, the degradation of health and education services, and soaring rates of unemployment create a huge challenge for policy-makers and international donors as they contemplate the task of rebuilding the economy.²

² Syria's economic reconstruction will be the focus of a forthcoming Chatham House research paper commissioned as part of the Syria and its Neighbours Policy Initiative.

Map: Syria – areas of control (May 2015) and economic infrastructure



The above map shows areas of control in Syria as of 27 May 2015, these were mapped with data from the Carter Center using software from Palantir Technologies. The oil and gas infrastructure is adapted from data from the US Energy Information Administration. Electricity infrastructure locations are taken from Syrian government's 2013 *Statistical Abstract*. The boundaries and names shown and the designations used on this map do not imply endorsement or acceptance by Chatham House.

Economic Context of the Uprising and the Slide to Conflict

Economic grievances were an important factor underlying the uprising against the Assad regime that began in early 2011. It should be noted, however, that the economic challenges to Syria at this time were in many ways typical of those facing other developing countries grappling with the pressures of globalization and the impact of climate change, and cannot fully explain the scale of the catastrophe that has afflicted Syria. Other factors have clearly exerted a more powerful influence, in particular the brutally repressive behaviour of the Syrian security state over more than 50 years; sectarian and ethnic tensions; the emergence of a virulent strain of jihadism in the tribal areas of Syria and Iraq since the US-led invasion of Iraq in 2003; and Iran's commitment to preserving the strategic assets that it has built up in Lebanon and Syria since the early 1980s. Nevertheless, the economic context of the uprising and the subsequent armed conflict is a critical element in understanding developments over the past four years, and in considering the challenge of resolving the crisis.

The economy had not been a policy priority during the three decades of the presidency of Hafez al-Assad. He had made some concessions to the mainly Sunni urban business class as part of his suppression of the Muslim Brotherhood uprising in the 1970s–80s, and there was a further limited opening of business sphere with Investment Law 10 in 1991, enacted in response to a foreign exchange crisis. Other salient elements included fostering the support and promoting the interests of the large agrarian population, and leveraging Syria's regional strategic position to extract aid from Iran (during the 1980s) and the Gulf Arab states (in the late 1970s and in the 1990s). The regime's intervention in Lebanon in 1976 allowed the development of a privileged class of security chiefs and business interests exploiting Syria's military presence to build up lucrative smuggling as well as semi-legitimate commercial relationships.

By the time Bashar al-Assad inherited the presidency in 2000, a process of cautious economic liberalization was under way, prompted partly by the decision to engage with the Barcelona Process, whereby Mediterranean basin countries were able to access to finance and technical assistance from European Union (EU) institutions while negotiating economic association agreements. Syria none the less retained a state-dominated system, with no private banks, no capital market and no mobile phone operators.

Some of these gaps in the make-up of a market economy were addressed during the first decade of Bashar al-Assad's presidency. Private banks, constituted as joint ventures between regional banks (Lebanese, Jordanian and Gulf Arab), began operations in the mid-2000s; by the end of 2011 these accounted for 27 per cent of total banking assets of £S1.95 trillion (\$40 billion).³ Mobile phone services started up in 2002 via two holders of build-operate-transfer (BOT) contracts. One was held by Syriatel, initially a partnership between a venture controlled by Rami Makhlouf, the president's maternal cousin, and Egypt's Orascom Telecom (which exited the partnership shortly after the launch); and the other by Investcom (the telecoms arm of the Lebanese Mikati group), which in 2006 was acquired by South

³ There are 14 private banks in Syria, of which three are Islamic banks. The source for the aggregate assets of the banking system is the Central Bank of Syria's most recent quarterly bulletin, with data up to the fourth quarter of 2011. See <http://banquecentrale.gov.sy/main-ar.htm>.

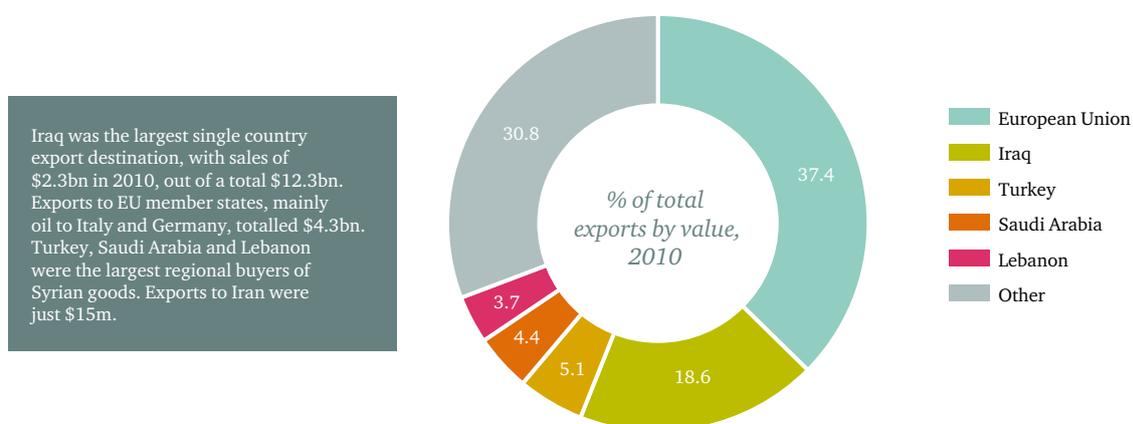
Africa's MTN. The Damascus Securities Exchange (DSE) started trading in 2009, with banks accounting for most of the listed securities; its index, launched at 1,000 at the end of that year, had risen to over 1,700 by the end of 2010. An attempt to launch a market in treasury bills petered out before 2011.

One significant aspect of the strategy of market-based reforms was the attempt to reduce energy subsidies – a central focus of the policy programme elaborated by Abdullah al-Dardari, deputy prime minister for the economy from 2005 until he left the government at the end of March 2011.⁴ The fierce criticism that this provoked was not only on the basis of genuine concerns about the impact of higher fuel prices on vulnerable groups, but also for more self-serving reasons – as the reforms would erode the profit margins of smugglers whose business was based on buying up large volumes of heavily subsidized fuel in Syria and selling it in Lebanon, Turkey and Jordan (where prices were much higher).

The new business class

The gradual opening of the Syrian economy gave rise to a new class of business interests. Most of these were based on extended family ties, and typically had links to the large Syrian diaspora. One of the main effects of the 1991 investment law was to generate a flood of car imports in the guise of the establishment of transport companies, which benefited from customs and tax exemptions. The private sector had been prohibited from importing cars since the 1960s, and the effective easing of this restriction allowed previously established dealers to resume their activities and new players to enter the scene. Most of the private sector investment over the subsequent two decades was relatively small-scale, as projects were held back by the difficulty in securing loan financing and by the absence of a capital market. Pharmaceuticals, food processing and textiles were the most popular sectors for industrial investment, and in the second half of the 2000s such ventures found an increasingly lucrative market in Iraq, which became Syria's largest single export destination.

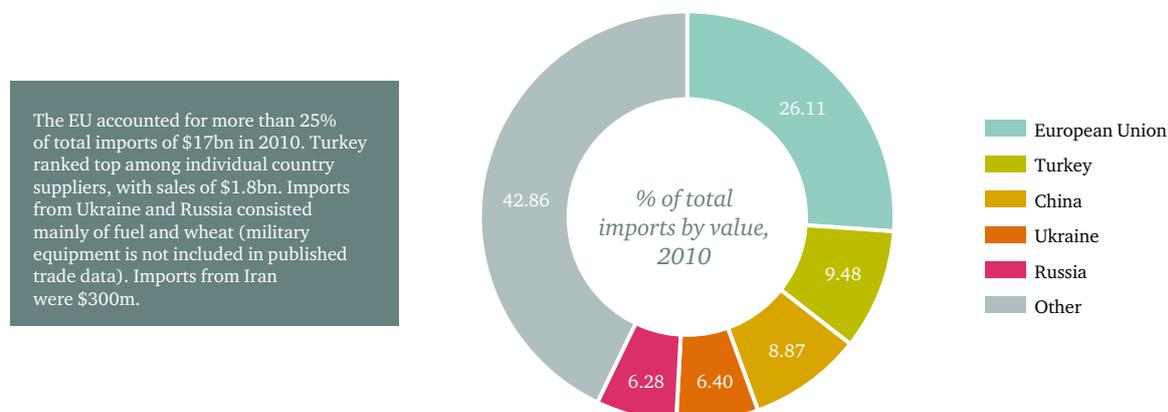
Figure 1: Principal export destinations, 2010



Source: Central Bank of Syria.

⁴ Dardari joined the UN Economic Commission for Western Asia (ESCWA), based in Beirut, in September 2011, and was appointed deputy executive secretary of the agency three years later.

Figure 2: Principal sources of imports, 2010



Source: Central Bank of Syria.

The pace of private sector expansion in Syria quickened in the late 2000s. Improved political and commercial relations with Turkey, including a free-trade agreement that came into effect in 2007, led to a surge in imports from that country. Concerns were expressed at the time about Turkish consumer goods flooding the market, but the inward flow also included significant amounts of capital equipment as Turkish companies outsourced production to Syria. There has been a reversal of this trade since 2011, as many Aleppo-based Syrian companies have relocated across the border to Gaziantep and are selling much of their output back in Syria. Turkish trade data show that the value of bilateral exports to Syria in 2014, at \$1.8 billion, was roughly the same as in 2010, having fallen to about \$500 million in 2012.⁵

One of the questions that will need to be addressed in the future is what role members of the business elite from the Assad era could play in rebuilding the Syria economy.

Particularly prominent as a business empire-builder under Bashar al-Assad has been Rami Makhoul. Other than his Syriatel operation and duty-free franchises at Damascus airport and on the Jordanian border south of Deraa, Makhoul's biggest venture was the launch of Cham Holding in 2006. The main founding shareholder was Makhoul's Mashreq Investment Fund. A ceremony was held at the end of that year at which 70 other business figures signed up as contributors to the company's \$350 million capital. The stated rationale was that this was a means to pool the resources of the Syrian business community to pave the way for larger-scale investments. In reality, Makhoul's investment partners could better be described as accomplices, whether willing or not, in a vast monopolistic enterprise based on Makhoul's ability to use his connections to the security services to impose his will, whether through land deals, manipulating the judiciary or more crude measures.⁶ Other conglomerates that prospered during this period included Souria Holding, with projects including an operating contract for the Latakia container terminal, and Bina Holding, along with family-based businesses such as the Hamsho Group and the longer-established Nahas Enterprises, which flourished particularly under Hafez al-Assad. Makhoul and many of the senior executives in Cham Holding and the other ventures

⁵ Turkstat, monthly foreign trade bulletins; http://www.turkstat.gov.tr/PreTablo.do?alt_id=1046.

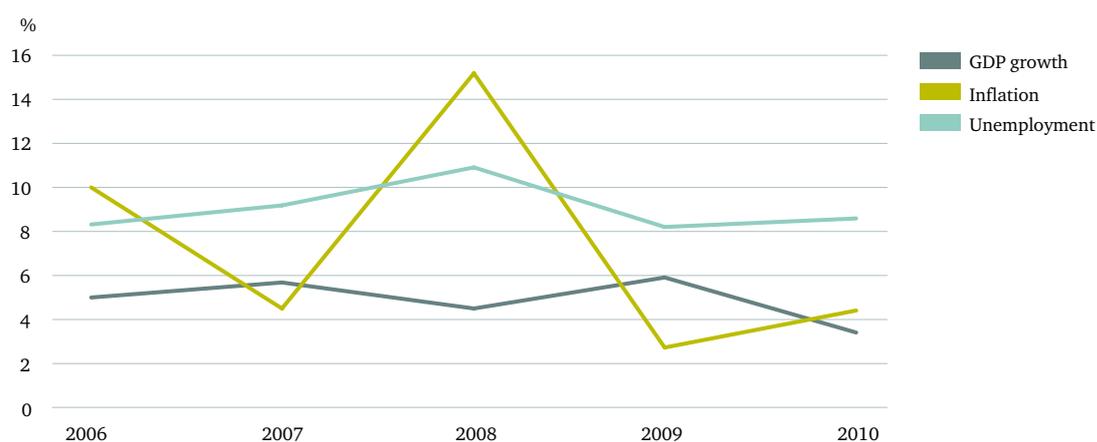
⁶ The main projects targeted by Cham Holding and the principal shareholders are listed in a profile published by *Al-Iqtisadi*, a Syrian economic news-site; <http://bit.ly/195vqNy> (Arabic).

have been designated in various EU sanctions lists issued since the 2011 uprising.⁷ One of the questions that will need to be addressed in the future is what role members of the business elite from the Assad era could play in rebuilding the Syria economy.

A revolt against crony capitalism?

The uprising against the Assad regime was sparked by the security services' brutal response to a demonstration of dissent by schoolchildren in Deraa. However, economic grievances were an important element fuelling the disaffection, both in Deraa – where the appropriation of land for Makhlouf's duty-free enterprise had been a contentious issue – and elsewhere in Syria. Market-oriented reforms were intended to put the state's finances on a sustainable foundation through cutting back wasteful subsidies, modernizing the taxation system and enabling an environment for private investment that could create jobs and foster wealth distribution. However, these reforms were met with resistance from within the system, and were only at an early stage of implementation by 2011.

Figure 3: Growth, inflation and unemployment, 2006–10



Source: Central Bureau of Statistics.

The overall performance of the economy in the pre-uprising period was relatively strong, with real annual GDP growth averaging about 5 per cent. Unemployment (by official data) averaged just over 8 per cent. (An exception was in 2008, when the unemployment rate exceeded 10 per cent, mainly as a result of drought; the same year also saw a spike in inflation, reflecting the sharp rise in world food and fuel prices.) The years prior to 2011 also saw an increase in the level of economic hardship for many segments of Syrian society, in particular in rural areas of the north and east. These trends have been analysed in depth by the SCPR.⁸ Rural deprivation, exacerbated by the severe drought in 2008 and poor rainfall in the following two years, resulted in a swelling of the population of haphazardly developed areas around the main cities. Such increased poverty and inequality alongside the rise of a new wealthy business elite made for a potentially combustible mix.

⁷ A sanctions decision by the Council of the European Union on 29 November 2012 listed 180 individuals and 53 entities. See http://www.sipri.org/databases/embargoes/eu_arms_embargoes/syria_LAS/eu-council-decision-2012-739-cfsp-of-29-november.

⁸ *Multidimensional Poverty in Syria*. June 2014; http://scpr-syria.org/att/Multidimensional_Poverty_in_Syria_EN.pdf.

The features of uneven economic development – widening gaps between rich and poor, breeze-block slums surrounding high-rise developments, and business elites working hand-in-glove with a repressive autocracy – are not unusual across the developing world, and in many countries in Latin America, Africa, Asia and the Middle East they have acted as catalysts for uprisings and revolutions. Economic grievances alone cannot explain the intensity of the violence that has swept Syria since the Assad regime opted to use force as the principal means to quell the first protests in the spring of 2011. There has, none the less, been some correlation between the areas of deprivation and the strength of opposition to the regime, while loyalists have tended to be most firmly implanted in relatively privileged areas. As the conflict has intensified, new economic factors have arisen: the government has had to adapt to the collapse of its revenue base and the shut-down of most of its oil production; the UN, Iran, Russia and the financing networks sustaining opposition groups and ISIS have come to play an increasingly important role in the Syrian war economy; the resource-rich governorate of Hasakeh has become a battleground for Kurdish groups and ISIS, with the Assad regime occupying only a peripheral role; and the private sector has sought to ensure the survival of businesses by shifting operations to the relatively secure coastal region or to neighbouring countries.

Counting the Cost of the Syrian Conflict

The task of quantifying the economic impact of four years of conflict on Syria is impeded by the lack of reliable data. The government and the Central Bank of Syria have continued to issue figures for some aspects of the economy – such as foreign trade, inflation, the exchange rate, and oil, gas and electricity production – while the quarterly financial reporting of private banks and mobile phone operators to the Syrian Commission on Financial Markets and Securities (SCFMS) provides some useful proxy indicators of the performance of sections of the economy. Other useful sources of data on Syria include UN agencies such as FAO, and agencies reporting foreign trade statistics in neighbouring countries – in particular Turkey.

The latest published official GDP data for Syria are for 2010 (in the 2011 *Statistical Abstract* of the Central Bureau of Statistics).⁹ The SCPR has had access to more recent data compiled by the national statistics bureau and another government agency, the Planning and International Cooperation Commission, and has used these figures to provide a picture of the state of the economy at the end of 2014.¹⁰ Given the difficulty that civil servants would have encountered in gathering reliable data in context of the conflict (with large parts of the country having fallen out of government control), these more recent statistics must be approached with some caution. Nevertheless, the data do provide a basis for reasonably credible estimates.

The SCPR has also conducted a ‘counterfactual analysis’, comparing the data for the past four years with projections based on a continuation of pre-conflict trends, to arrive at estimates for overall economic losses.¹¹ These calculations result in some staggering conclusions: the accumulated losses in terms of GDP at constant prices are equivalent to 229 per cent of 2010 GDP; the losses in GDP at current prices are estimated at \$120 billion, roughly double the level of GDP in 2010. However, the analysis rests on both accepting the recent data and assuming a highly optimistic scenario of annual growth averaging 6.6 per cent during 2011–14 if the situation had continued as before. By assuming an average annual growth rate of 3 per cent under the continuing scenario and comparing that with the actual data presented, the accumulated losses at constant prices would represent 188 per cent of 2010 GDP – still of course a very substantial figure.

Table 1: Real GDP growth and estimated losses, 2010–14 (£ billion at constant 2000 prices)

	Actual*	% change year on year	SCPR continuing scenario	% change year on year	Implied loss	Loss as % of 2010 GDP
2010	1,470	3.4	1,470	3.4		
2011	1,413	-3.9	1,574	7.1	161	11
2012	977	-30.9	1,676	6.5	699	48
2013	620	-36.5	1,788	6.7	1,168	79
2014	558	-10.0	1,898	6.2	1,340	91
Total 2011–14	3,568		6,936		3,368	229

* 2014 figures include estimates for fourth quarter.

Source: Syrian Center for Policy Research: *Alienation and Violence: Impact of Syria Crisis Report 2014*.

⁹ See <http://www.cbssyr.sy/yearbook/2011/chapter15-EN.htm>.

¹⁰ Syrian Center for Policy Research: *Alienation and Violence: Impact of Syria Crisis Report 2014*; http://scpr-syria.org/att/SCPR_Alienation_Violence_Report_2014_EN.pdf.

¹¹ *Ibid.*

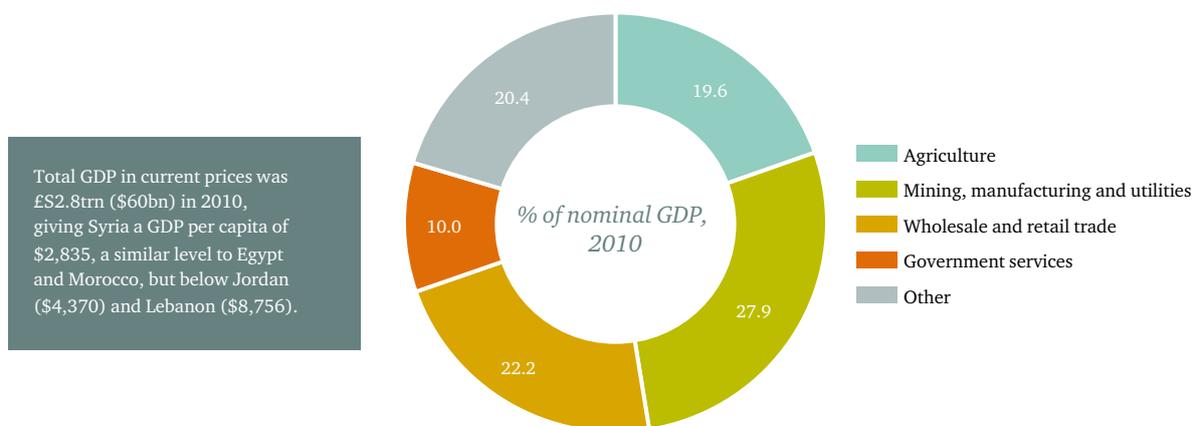
The SCPR report estimates that real GDP contracted by 62 per cent between 2010 and 2014. Its findings indicate that the most severe contraction of the economy took place in 2012 and 2013, when real GDP fell by 30.9 per cent and 36.5 per cent respectively. The rate of decline slowed to about 10 per cent in 2014.¹² The most severely affected sector has been mining (including oil production), which has seen a 94 per cent contraction in real terms since 2010, according to the SCPR projections. Manufacturing domestic trade and construction have also declined by more than 70 per cent on average. The contribution of agriculture and government services has risen as a proportion of GDP to 46 per cent in 2014 from about 30 per cent in 2010, but these sectors have also contracted in real terms by more than 40 per cent.

The SCPR estimates that Syria's population fell from 20.9 million in 2010 to some 17.7 million at the end of 2014. Based on previous population growth trends, the study calculates that the 2014 population would have reached about 23 million; on this basis, the conflict has brought about a 23 per cent drop in the population of Syria, as a result of external migration and an estimated 250,000 conflict-related deaths.

Impact on agriculture

At the time of the 2011 uprising, agriculture accounted for about one-fifth of Syria's GDP, and a significant proportion of the labour force. The sector had been badly affected by a series of droughts in the second half of the 2000s, and this, combined with more rapid development in other sectors, had led to a drift of workers away from the land. In 2001 30 per cent of the total labour force (including 55 per cent of female workers) was employed in agriculture, compared with 23 per cent in services; by 2010 these shares had shifted to 13.2 per cent in agriculture and 28 per cent in services, with the latter accounting for 68 per cent of the female labour force.¹³ A report published by FAO and the World Food Programme (WFP) in July 2013, based on a joint study mission to Syria in May–June that year, noted that almost half the Syrian population could be classed as rural dwellers, of whom 80 per cent derived their main income from agriculture.¹⁴

Figure 4: Structure of GDP, 2010



Source: Central Bureau of Statistics.

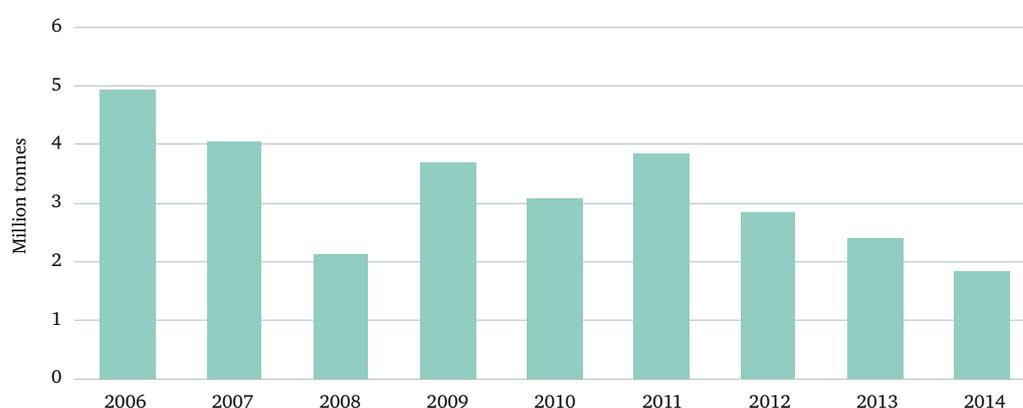
¹² An internal report prepared by ESCWA estimated that real GDP contracted by 6.8 per cent in 2011, 28.2 per cent in 2012, 16.7 per cent in 2013 and 4.1 per cent in 2014.

¹³ Central Bureau of Statistics.

¹⁴ FAO/WFP Crop and Food Security Assessment Mission. <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp258332.pdf>.

The three wheat harvests preceding the 2011 uprising had all been affected by the drought, with the most severe impact being felt in 2008, when production dropped to 2.1 million tonnes, compared with an average of almost 5 million tonnes per year in the first half of the decade. Reasonably good rainfall levels helped production to recover to 3.85 million tonnes in 2011, but the impact of the conflict was reflected in subsequent production years, with military encroachment on farmland, shortages of seed, fertilizer and pesticide, and increasing difficulty in securing fuel for farm vehicles and machinery. Grain silos have also sustained damage in the fighting, and some have been converted or ‘cannibalized’ for use as improvised oil refineries. Rainfall in the 2013/14 winter was well below average, but despite better growing conditions in 2014/15 the wheat harvest was again likely to be only some 2 million tonnes at best, given the decline in the area planted in conjunction with falling yields.

Figure 5: Wheat production, 2006–10



Source: Syrian Central Bureau of Statistics (up to 2011); FAO for 2012–13; the 2014 figure is an estimate based on WFP best- and worst-case scenarios.

Most of Syria’s cereals production comes from the northern governorates of Hasakeh, Raqqa and Aleppo, which have largely fallen out of central government control – although the regime does retain a military and administrative presence in the northern half of Hasakeh governorate, alongside the autonomous Kurdish administration dominated by the Democratic Union Party (PYD). Distributing grain from Hasakeh to mills serving the main cities of Damascus, Homs and Aleppo to the southwest requires coordination with ISIS, which controls much of the territory in the Euphrates valley and has taken charge of most economic activity in these areas, including securing basic food supplies.¹⁵

As a consequence of the fall in cereals production, Syria has become dependent on imports to meet an increasing share of domestic requirements; prior to the conflict, it was usually able to produce enough for its own needs and a small surplus for export. According to the International Grains Council, Syria imported 1.5 million tonnes of wheat in 2014, along with 400,000 tonnes of maize and 200,000 tonnes of barley.¹⁶ Part of these imports is included in the food rations distributed to an estimated 3 million people within the country by WFP and other agencies (of 4.2 million identified as being in need of humanitarian assistance), and the remainder is financed through credit lines with Iran and Russia.

¹⁵ The Raqqa is Being Slaughtered Silently blog and Twitter account, an underground anti-ISIS news resource, reported on 7 March 2015 that a convoy of 185 trucks laden with grain from Hasakeh had recently passed through the city under an arrangement whereby ISIS unloaded 25 per cent of the cargo in return for safe passage to regime-held areas to the southwest. See <http://www.raqqa-sl.com/en/>.

¹⁶ World-Grain.com. <http://www.world-grain.com/Departments/Country%20Focus/Country%20Focus%20Home/Focus%20on%20Syria.aspx>.

Other major crops in Syria include olives, mainly grown in the northwest, and cotton, particularly in Hasakeh, Raqqa and Aleppo governorates. Olive production fell to 450,000 tonnes in 2014, about half the average during the pre-conflict period, reflecting both poor rainfall and the impact of the conflict on Idleb governorate. With more than 7 million fruit-bearing olive trees, Syria has huge potential to develop its olive and olive oil business once the conflict abates. Cotton output was already in decline in the late 2000s as a result of drought and crop infestation, but the situation has worsened since 2011. The 2014 crop was estimated by the agriculture ministry at 169,000 tonnes, compared with an average of more than 600,000 tonnes per year in 2006–10.¹⁷

Olive production fell to 450,000 tonnes in 2014, about half the average during the pre-conflict period, reflecting both poor rainfall and the impact of the conflict on Idleb governorate.

The 2013 FAO/WFP report also highlighted the devastating impact of the conflict on livestock farming, which formerly accounted for about 40 per cent of total agricultural output by value. The report estimated that the national herds of sheep, cattle and goats had declined by 30–40 per cent since 2010, while poultry production had fallen by more than 50 per cent.¹⁸ In March 2015 FAO announced its support for a programme aimed at addressing the growing problem of the spread of animal diseases to Syria's neighbours as a result of the collapse of veterinary services within Syria.¹⁹

Energy

Oil and gas played an important part in Syria's pre-2011 economy, although the country was only a modest producer by regional standards. Oil exports in 2010 totalled \$5.5 billion, while imports of petroleum products were valued at \$3 billion. The net income from oil exports was offset by royalties paid to international producing companies, such as Shell and Total. Similarly, the cost of oil imports to the economy as a whole was amplified by the extensive subsidies on petroleum products, in particular diesel. Security agencies operated large-scale rackets based on bulk-buying of subsidized fuel in Syria for export – at a huge mark-up, to Lebanon, Turkey and Jordan – where fuel prices were more or less pegged to international levels.

Oil revenue typically accounted for about 20 per cent of annual budget revenue during 2005–10; the contribution was higher in the previous decade, when output exceeded 500,000 b/d. The government started to reform the system of fuel subsidies in 2008, raising diesel prices and introducing a system of rationed access to subsidized fuel; and from 2010 the budget specified a figure for fuel subsidies.

Syria produced about 385,000 b/d of oil in 2010, of which about 150,000 b/d was exported and the remainder processed through the Homs and Baniyas refineries for local consumption. The state-owned Syrian Petroleum Company (SPC) produced about 195,000 b/d, mainly from mature fields in Hasakeh governorate. The Shell-operated Al Furat Petroleum Company (AFPC) produced 92,000 b/d from fields in the Euphrates valley that had been developed in the 1980s and 1990s, and which peaked

¹⁷ *The Syria Report*; Central Bureau of Statistics.

¹⁸ FAO/WFP Crop and Food Security Assessment Mission (see above).

¹⁹ World-Grain.com. http://www.world-grain.com/articles/news_home/World_Grain_News/2015/03/FAO_boosts_food_security_effor.aspx?ID=%7BB37323E1-8DD9-4A5E-882D-7338EA569AE9%7D.

at some 400,000 b/d in the early 2000s before entering a steep decline. Other producers included Total (21,000 b/d from the Euphrates valley), and Gulfsands, Sinopec and China National Petroleum Corporation (CNPC), which produced about 56,000 b/d in total from different areas of Hasakeh.

Table 2: Oil production, March 2011 (b/d)

Company (operator)	Location	Output
SPC	Hasakeh and Raqqa	195,000
AFPC (Shell)	Euphrates valley	92,000
DZPC (Total)	Euphrates valley	21,000
SIPC (Sinopec)	S Hasakeh	20,000
Dijla (Gulfsands)	NE Hasakeh	24,000
Kawkab (CNPC)	NE Hasakeh	12,000
Rasheed (IPR)	Euphrates valley	4,000
Hayan (INA)	West of Palmyra	9,000
Albu-Kamal (Tatneft)	S Euphrates valley	2,000
Total		387,000*

* Total output includes condensates, estimated at 8,000 b/d.
Source: Based on Ministry of Petroleum and Mineral Resources statements.

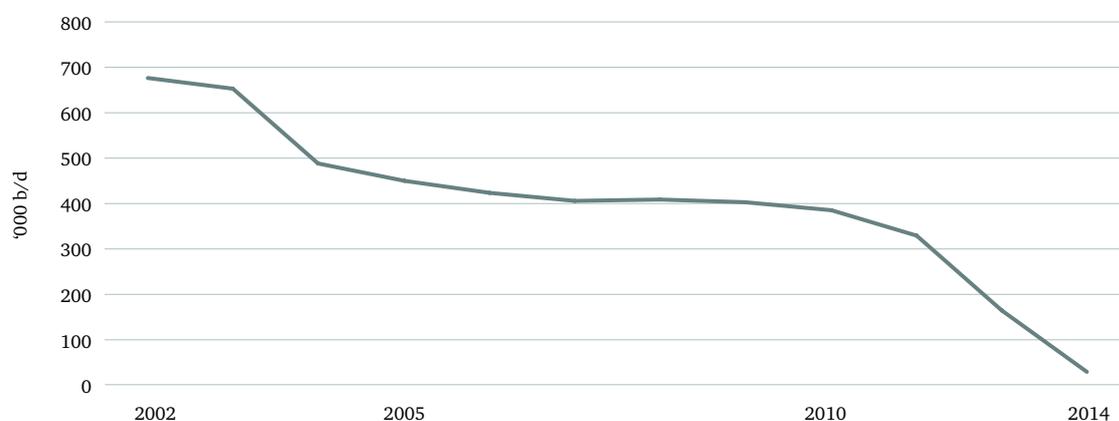
During the late 2000s the natural gas sector attracted heavy investment, and production rose sharply in 2010 and 2011 as a result of the start-up of two major projects in central Syria: the Al-Shaer field developed by Ebla Gas Company, in which Canada's Suncor was the operating partner; and the Jihar scheme, developed by Hayan Petroleum, operated by Croatia's INA. These two schemes helped to lift total gas output to 8 billion cubic metres in 2010 and to 8.7 billion cubic metres in 2011, from an average of 5.5 billion cubic metres in the previous five years. The gas was used mainly for electricity generation, feeding new combined-cycle power stations built with finance from the EU and Gulf Arab states.

The EU reacted to Assad's violent suppression of protests by imposing sanctions on the oil sector and on prominent individuals within the regime and the business community. A ban on imports of Syrian oil into the EU entered effect in September 2011, and two months later the EU designated for sanctions the main oil entities, including the General Petroleum Company, the Syrian Trading Oil Company (Sytrol) and AFPC (the largest foreign-operated producer). Sanctions were tightened at the end of 2012, to include an embargo on the supply of equipment that might be used for oil production or refining. The ban on exports had an immediate effect, as almost all of Syria's crude oil sales of about 150,000 b/d had previously gone to Europe (mainly to Italy and Germany), and it proved difficult to find alternative buyers. That on interaction with oil entities triggered withdrawals from the country by most of the foreign operators, notably Shell (the principal partner in AFPC) and Total.²⁰

Sanctions, together with the regime's loss of territory in the Euphrates valley to rebel groups, resulted in a steady decline in oil output to 164,000 b/d in 2012, about 30,000 b/d in 2013 and only some 10,000 b/d in 2014, according to figures issued by the oil ministry. (These figures do not include oil produced in areas outside regime control.)

²⁰ The UK government provides a guide to all EU sanctions on Syria in a periodically updated briefing. See <https://www.gov.uk/sanctions-on-syria>.

Figure 6: Oil production, 2002–14



Sources: BP Statistical Review of World Energy, 2014; Syrian Ministry of Petroleum and Mineral Resources.

The Syrian army recognized in the course of 2012 that it had to prioritize its resources. This meant concentrating forces in the areas of larger population in the western half of the country; and protecting its natural gasfields, which are critical for generating electricity. As the state thus moved out of the oilfields, local actors moved in. These were drawn from the tribal population of Deir el-Zor and Raqqa governorates, which had never been fully integrated into the Syrian state. The tribes had long complained that they had not benefited from the development of oil reserves, and there were long-standing grievances about the lack of refineries and other oil- or gas-based industries in the eastern half of the country. The government has talked for decades about locating a new refinery in Deir el-Zor, but this was little more than a political gesture aimed at placating the tribes.

During 2012 and 2013 a new oil economy took shape in eastern and northern Syria. Tribes and clans in Deir el-Zor and southern Hasakeh took over the wellhead operations of dozens of fields. Most of these were in the former operating areas of Shell (Al Furat) and Total (Jafra). These operators negotiated agreements with the dominant military groups in the region over the sale of crude to traders, who then transported the oil to trading and refining hubs close to the Turkish border, at Manbij, Ras al-Ain and Tel Abyad. Rebel groups and their local warlords set up clusters of basic refineries in these regions, placing orders with Turkish steel fabrication plants for the pipes, cylinders and tanks required. Grain silos and cotton-ginning plants have been cannibalized for some of these refineries.

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The big oilfields in the northeast meanwhile remained under the control of a de facto alliance of the Assad regime and the autonomous Kurdish administration led by the PYD. According to PYD leader Saleh Muslim, most of these fields are not producing as the pipeline through Raqqa governorate to Homs and Baniyas has been cut since 2012.²¹ The statement should not necessarily be taken at face value, as it is probable that oil is still being produced both to meet the needs of this region and for sale over the border into the Kurdistan Regional Government (KRG) area of Iraq. Sam Dagher, a correspondent for the *Wall Street Journal*, quoted officials in the PYD-controlled part

²¹ Private communication.

of Hasakeh as saying that fields in this region were producing 40,000 b/d in late 2014. This oil was produced under the supervision of the People's Protection Units (YPG), the armed wing of the PYD, and sold to local Arab tribal groups for about \$15/barrel. The crude was then processed through makeshift kilns (reportedly numbering some 3,000 across the region) to make diesel and gasoline, which was sold to traders at about \$40/barrel. One operator was quoted as saying that eight barrels of crude yield six barrels of products through this production route.²²

Initially, the rebel region oil economy came under the control of Jabhat al-Nusra and Ahrar al-Sham, under the stewardship of the *Shari'a* courts that these groups set up in the main towns. ISIS started to penetrate the oil business in early 2013, at the same time as it expelled its rivals from the city of Raqqa. Jabhat al-Nusra held on to the largest oil assets in the Euphrates valley until succumbing to ISIS in mid-2014. Agreements reached between the region's tribes and Omar al-Hadawi, the head of Jabhat al-Nusra's legislative council, were overridden by new arrangements drawn up by the ISIS leadership. Operation of specific fields was now assigned to clans and tribes that had sworn allegiance to ISIS, with set prices and target volumes for the oil to be sold to ISIS-approved traders. The wellhead price was reported in mid-2014 to be \$20–25/barrel. ISIS administered the transport of crude via parts of the existing pipeline system and new sections of pipeline, and by tanker to the new refineries in the north. Some refineries were also set up closer to the oilfields, in Mayadin (near Deir el-Zor), al-Houl (southern Hasakeh) and in the border area of Abu-Kamal. The products – mainly gasoline and diesel – are sold both within Syria and exported over the border to Turkish traders. ISIS has also relied on fuel produced in Syria for its operations in Iraq since June 2014, following the shutdown of the Baiji refinery.

The total output of oilfields under ISIS control in Syria in mid-2014 was estimated by the government in Damascus to be about 50,000 b/d. Production is likely to have slipped since then as a result of the disruption caused by coalition airstrikes – although these have targeted refining and storage facilities in particular and largely avoided upstream installations. The bulk of the oil output comes from fields that were operated by Shell and Total, with smaller amounts coming from SPC fields in Raqqa and southern Hasakeh.

The biggest field under ISIS control is Omar, in the Al Furat (i.e. AFPC) area. Output from the field peaked at some 60,000 b/d in the late 1990s, and stood at about 30,000 b/d in 2011. However, this was only sustained by large-scale water injection, and there will be technical challenges for the current operators to keep oil flowing at more than 10,000 b/d without seriously damaging the reservoirs. Similar problems face many of the other Al Furat fields, such as Tanak, al-Ward, Thayyem, Maleh, Sijan and Izbaa. The main fields in the area formerly operated by Total are Jafra and Tayibeh, which are together capable of producing about 15,000 b/d. Tayibeh is dependent on reinjection of associated gas from a treatment plant known as 'Conoco' (after the US company that built it in the early 2000s).

The Syrian government still has a residual presence in Deir el-Zor governorate, and there is still some trade in oil and gas between the regime and the ISIS-controlled region. The main connection is between the 'Conoco' plant and the Jandar power station, south of Homs. Jandar is linked to Deir el-Zor by a 400-kv transmission line. Keeping the 'Conoco' plant in operation is in the interests of many parties to the conflict.²³ Prior to the conflict, the plant had the capacity to process 13 million cubic metres/day of associated gas, of which about 8 million cubic metres was reinjected into the Tayibeh oilfield; the remainder was processed to produce about 3.2 million cubic metres/day of sales gas that was pumped to central Syria and mainly used in the Jandar power station.

²² <http://www.wsj.com/articles/control-of-syrian-oil-fuels-war-between-kurds-and-islamic-state-1416799982>.

²³ The interaction between tribal groups, Jabhat al-Nusra and the Islamic State over the Conoco plant is described in Chapter 13 of *ISIS: Inside the Army of Terror*, by Michael Weiss and Hassan Hassan.

There have been claims in the media that ISIS is pumping some of the oil produced in the Euphrates valley via the T2 pumping station (on the old Iraq–Syria pipeline) to the Homs and Baniyas refineries. There is no hard evidence to support these claims, although it is possible that the condensates produced at the ‘Conoco’ plant are piped to regime areas along with the treated gas. The ‘Conoco’ plant also produces liquefied petroleum gas (LPG), some of which may be sold in regime areas.

In March 2015 the EU announced sanctions against seven Syrian individuals, including George Haswani, the head of the oil and gas contracting firm HESCO, who was alleged to have been involved in purchasing oil from ISIS on behalf of the regime. Haswani told Reuters news agency that these allegations were baseless, and that he intended to sue the EU.²⁴ (The author of this paper contacted HESCO in September 2014, when similar claims were printed in a Lebanese newspaper, but did not receive a response.) In his comments to Reuters, Haswani suggested that the EU would do better to investigate the sales of oil and petroleum products by ISIS to traders in Turkey. He acknowledged that one of the projects that HESCO had been working on, as a subcontractor to Russia’s Stroytransgaz, lies in an area of central Syria under ISIS control; this was an apparent reference to the North Middle Area gas project, involving the development of the Fayyad and Sadad fields, between Palmyra and Raqqa. Several natural gas installations between Palmyra and Homs came under assault from ISIS forces in the second half of 2014, and two gasfields to the east of Palmyra fell into ISIS hands prior to the group’s capture of the town in May 2015 (see below).

The mainstay of the Assad regime’s oil economy is the Baniyas refinery, which processes up to 125,000 b/d of oil imported by tanker under a line of credit provided by Iran. The refinery has four units, of which two are configured to process light crude (from Iraq, or from Syria’s Euphrates valley) and two heavy (such as that produced in Sweidiyeh). Baniyas has continued to operate at close to its capacity using supplies of crude oil arranged by Iran and various intermediaries. Much of the oil comes direct from Iran, but shipments have included Basra Light crude originating in Iraq.²⁵ The Homs refinery is designed to process a light/heavy blend, but the interruption to supplies, as well as security issues, have meant that it has barely been operating since 2012. According to the monthly oil reports of the International Energy Agency (IEA), sales of Iranian crude to Syria averaged 30,000 b/d in the first six months of 2014, and resumed at this level after a hiatus in July. Sales rose to 60,000 b/d in October, paused again in November, and resumed at 60,000 b/d in December of that year and in January 2015. Sales fell to 30,000 b/d in February, but reached a record 125,000 b/d in March. The IEA data suggest that Syria purchased Iranian oil to the value of some \$1 billion during 2014. These purchases would have been financed by a \$3.6 billion credit line signed in July 2013.²⁶ Factoring in purchases made during 2013, and adding cargoes of non-Iranian crude to the total, it is probable that most of the Iranian credit line had been used up by late 2014. The Syrian government held a series of economic and trade talks with Iran in Tehran and Damascus between December 2014 and June 2015. Rustom Qasimi, a former oil minister and the current head of the committee for developing Iranian–Syrian economic relations, stated in Damascus in May that Iranian crude supplies would continue.²⁷ As of June 2015 there had been no official announcement of new credits, and reports suggested that Iran was pressing for conditions such as receiving assets in Syria as security for additional financial aid.

²⁴ <http://uk.reuters.com/article/2015/03/08/syria-crisis-eu-idUKL5N0WA0E020150308?feedType=RSS&feedName=rbssEnergyNews>.

²⁵ A Reuters report published in December 2013 provided some insights into these transactions. See <http://uk.reuters.com/article/2013/12/23/uk-syria-oil-idUKBRE9BM0RQ20131223>.

²⁶ International Energy Agency, Oil Monthly Report.

²⁷ *Al-Watan*, 14 May 2015.

The Assad regime has on several occasions sought to circumvent sanctions by encouraging private traders to secure supplies of oil and petroleum products. However, this has tended to push up demand for foreign currency, resulting in pressure on the exchange rate.²⁸ The growing difficulty that the government has encountered in securing petroleum supplies has been reflected in the efforts made since mid-2014 to rein in fuel subsidies. Notably, a set of measures applied at the start of 2015 entailed setting a unified price for gasoil/diesel, the most heavily consumed petroleum product in Syria, in effect ending any form of consumer subsidy. In October 2014 the price for household consumers, drivers and farmers was set at S£80 (40 US cents) per litre, while private sector industrial users were charged S£150 per litre, based on a world market-linked index. The new, unified price is S£125 per litre, representing an increase of more than 50 per cent for most consumers. This price is equivalent to about \$100 per barrel of diesel at the mid-January 2015 exchange rate of S£200 = US\$1 used by commercial banks. The price of fuel oil was also unified at S£85,000 per tonne, compared with a previous price of E£50,000 for the public sector and S£105,000 for private industries. In April 2015 the unified price for fuel oil was increased to S£105,000 per tonne. The price of a 10-kg canister of cooking gas was at the same time increased to S£1,500 from S£1,100. Gasoline has been distributed at market prices since before the conflict.

Natural gas and electricity

The conflict has had a less severe impact on the natural gas sector than on oil. This is partly because some of the main gasfields have remained under regime control; partly because of the difficulty in trading natural gas; and partly because the electricity grid, which supplies regime and rebel regions alike, depends to a large extent on gas continuing to be piped to power stations in regime-held areas. However, the situation has worsened since mid-2014, when ISIS launched a number of raids on gas facilities between Homs and Palmyra. The power sector has also suffered as the infrastructure has been degraded as a result of attacks on transmission lines and distribution facilities, and by the difficulty in ensuring proper maintenance of power stations.

Syria's older gasfields, in Hasakeh governorate (Jbeissa and Rumeilan), are no longer supplying the west of the country as a result of damage to the pipelines. However, over the past two decades there has been considerable investment in developing gasfields in the central region, between Palmyra and Homs. Two of these projects were completed in 2010: Al-Shaer (Ebla Gas Company, with Canada's Suncor as the operator) and Jihar (Hayan Petroleum Company, with Croatia's INA the operator). Previously, Syria's gas production averaged about 5.5 billion cubic metres per year; with the entry into production of the new projects, total output reached a record 8.7 billion cubic metres in 2011. It has since slowed to 5.6 billion cubic metres in 2013 and an estimated 5 billion cubic metres in 2014.²⁹ About 80 per cent of Syria's current gas production comes from the Homs–Palmyra region, with most of the remainder coming from the 'Conoco' plant.

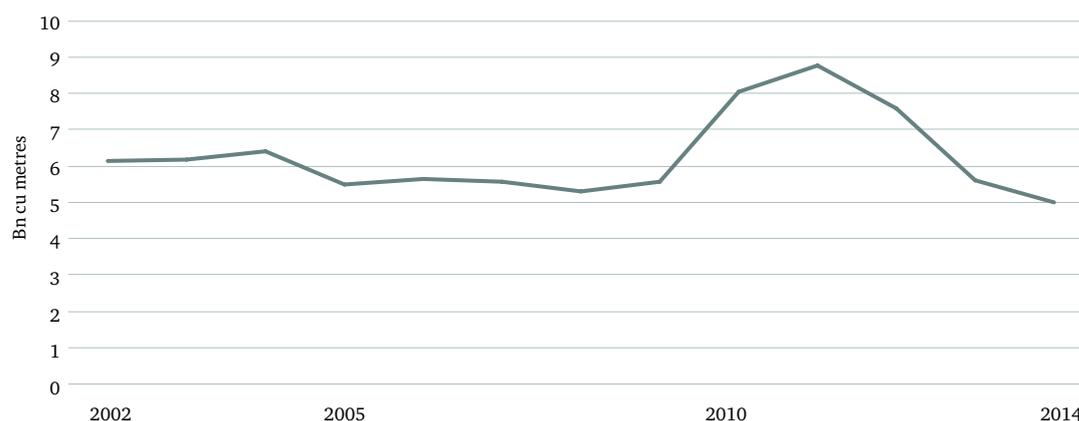
In July 2014 ISIS launched its first attack on a regime-held natural gas plant, briefly seizing the Al-Shaer gasfield. The ISIS forces were driven out after about two weeks, but they launched a fresh attack in November, at which time they also took control of some of the fields serving the Jihar plant. Again they were driven out, and the regime's mobilization of large counter-attacking forces gave clear evidence of its concern about these strategic assets. In May 2015 ISIS took control of the Arak and

²⁸ See for example comments by the central bank governor, Adib al-Mayaleh, about the effects of private sector diesel imports in early 2015: http://syria-news.com/readnews.php?sy_seq=178202 (Arabic).

²⁹ The latest edition of the authoritative BP *Statistical Review of World Energy*, published in June 2015, casts doubt on the Syrian oil ministry's data for gas production since 2011. BP's revised historical data show production of 7.1 billion cubic metres in 2011, 5.2 billion cubic metres in 2012, and 4.7 billion cubic metres in 2013. The BP data put production at 4.4 billion cubic metres in 2014.

Hail gasfields to the east of Palmyra in the course of its offensive against the town itself. Following the capture of Palmyra, ISIS launched fresh assaults on the Hayan and Ebla complexes. ISIS also captured phosphate mines to the south-west of Palmyra.

Figure 7: Natural gas production, 2002–14



Sources: *BP Statistical Review of World Energy*, 2014; Syrian Ministry of Petroleum and Mineral Resources.

Virtually all the gas produced in Syria is consumed in power generation. The most recent official data on the state of the power sector are contained in the 2013 annual report of the Public Establishment for Electricity Generation and Transmission (PEEGT). These figures show that power generation dropped by 30 per cent in 2013, to 29,922 GWh, from 42,092 GWh in 2012. There had been a more modest fall of 12.5 per cent in 2012, from a peak of just over 49,000 GWh the previous year. It is likely that there was a steep decline in power output in 2014, as a result of further damage to infrastructure and difficulties in securing fuel. Minister of Electricity Imad Khamis stated in February 2015 that effective generating capacity had fallen to some 1,500–2,500 MW, compared with more than 9,000 MW in 2011.

The PEEGT report for 2013 does not include details on the fuel used in Syria's power stations, but the data from the previous year indicated that natural gas was the most important source, accounting for 6.3 million tonnes of oil equivalent, compared with 2.4 million tonnes of fuel oil. With the recent decline in gas production, the government has indicated that it will seek to import more fuel oil; and there has even been discussion of setting up facilities to import liquefied natural gas (LNG).

Most of the major power projects of the past two decades have involved the construction of combined-cycle plants, based on gas turbines, with additional power coming from steam turbines driven by heat recovered from the primary cycle. Combined-cycle plants accounted for almost 40 per cent of Syria's effective generating capacity of 7,939 MW. Steam turbine plants, most of which run on natural gas, with fuel oil as back-up, accounted for just under 3,000 MW of available capacity, and most of the remainder was made up of stand-alone gas turbine plants (640 MW) and three hydroelectric plants on the Euphrates with a combined operating capacity of 1,080 MW.

The combined-cycle plants, most of which are located around Damascus and Homs, contributed almost half of the power generated in 2013: 14,342 GWh of a total 29,922 GWh. The most modern of these is Deir Ali, south of Damascus; output at Deir Ali increased in 2013 to 4,203 GWh, making it the largest contributor to the grid. A contract was awarded at the end of 2010 to Italy's Ansaldo and Greece's Metka to build a 750-MW combined-cycle plant in Deir el-Zor, but that project is now on hold.

Table 3: Power stations, installed and effective capacity (MW, 2013)

Plant	Installed	Effective	Fuel	Location
<i>Combined-cycle</i>	3,370	3,080		
Jandar	660	570	Gas	South of Homs
Jandar extension	300	260	Gas	South of Homs
Nassiriya	480	450	Gas	Northeast of Damascus
Zeizoun	480	450	Gas	Southwest of Idleb
Deir Ali	750	705	Gas	South of Damascus
Deir Ali extension	250	245	Gas	South of Damascus
Tishreen extension	450	405	Gas	South of Damascus
<i>Steam turbine</i>	3,835	2,995		
Mhardeh	630	460	Gas/fuel oil	Northwest of Hama
Banias	640	520	Fuel oil	Mediterranean coast
Tishreen thermal	400	340	Gas/fuel oil	East of Damascus
Aleppo	1,065	1,060	Gas/fuel oil	East of Aleppo
Al-Zara	1,100	610	Gas/fuel oil	Southwest of Hama
<i>Gas turbine</i>	775	640		
Sweidiyeh	150	130	Gas	Southeast of Qamishli
Tayyim	105	60	Gas	West of Deir el-Zor
Tishreen gas turbine	220	200	Gas	East of Damascus
Banias extension	300	250	Gas	Mediterranean coast
<i>Diesel</i>	90	0		<i>Mhardeh, Banias, Aleppo</i>
<i>Oil ministry plants</i>	135	135		
Syrian Petroleum Company	75	75	Gas	Hasakeh governorate
Homs refinery	30	30	Gas/fuel oil	Homs
Banias refinery	30	30	Fuel oil	Banias
<i>Water and irrigation ministry plants</i>	1,490	1,080		
Euphrates dam	800	480	Hydro	East of Raqqa
Baath dam	90	75	Hydro	East of Raqqa
Tishreen dam	600	525	Hydro	North of Lake Assad
<i>Other</i>	3.5	3.5		
Total	9,699	7,939		

Source: PEEGT.

The plant that has been worst affected by the conflict is the 1,065-MW power station to the east of Aleppo, output from which fell by 60 per cent in 2013. The plant lies in one of the most fiercely contested conflict zones, and its operation is dependent on lengthy and vulnerable supply lines for natural gas or fuel oil. There were reports in early 2015 that it had come back on line as a result of local negotiations among various parties, including ISIS. The Al-Zara plant, between Homs and Hama, has also suffered damage, with its available capacity reduced from 1,100 MW to 610 MW.

The most important power facilities in the ISIS area of control are the hydroelectric plants on the Euphrates. The largest is the main Euphrates dam (sometimes referred to as the Tabqa dam), at the southern end of Lake Assad, close to Raqqa, which has been under ISIS control since mid-2013. The smaller Baath dam is nearby; and there is a more recently built dam, Tishreen, further upstream. These three plants accounted for 9.2 per cent of Syria's power generated in 2013. However, poor rainfall over the 2013/14 winter lowered the water level in Lake Assad, which is likely to have impaired the performance of the main Euphrates dam during 2014.

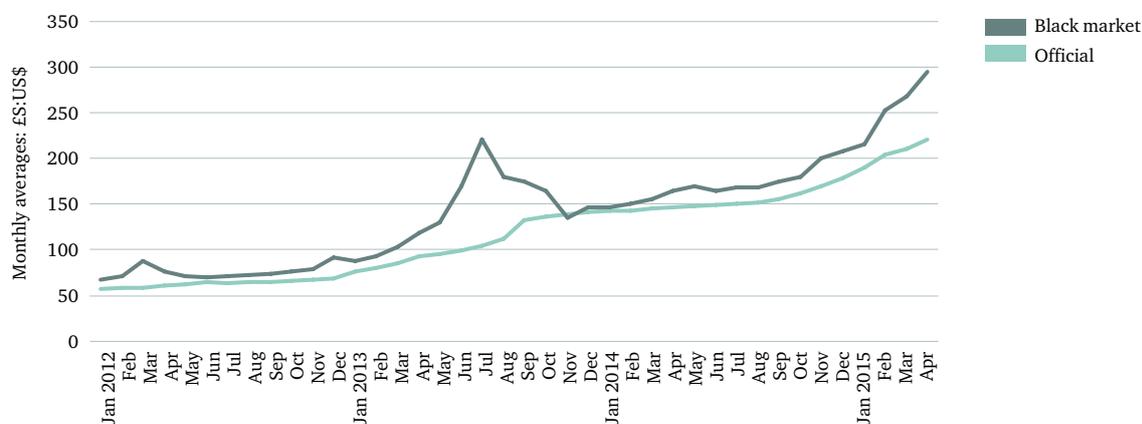
Exchange rate and inflation

Among the few economic indicators for which data have been readily available since 2011 has been the exchange rate. The Central Bank of Syria has continued to quote daily rates for the Syrian pound against other currencies. These rates comprise the official central bank rate; a rate applicable for the Commercial Bank of Syria (the largest state-owned bank); a rate at which other banks can obtain foreign exchange for the purpose of financing imports; and a rate for licensed money-changing companies. Outside these official channels, there is extensive trading on the black market through networks within Syria and in neighbouring countries – primarily Lebanon – that have developed over many decades as a means to avoid the restrictions of the state system. The central bank brought in the special rates for banks and money-changers in July 2013 after the black market rate briefly soared over $\text{£}300 = \$1$. The central bank and Commercial Bank of Syria rates are closely aligned, and were about $\text{£}220 = \$1$ in May 2015; the rates for the banks and money-changing companies were $\text{£}260 = \$1$ at this time. The gap between the official rate and the black market rate has tended to be 5–10 per cent, although for a short period in late 2013 the cost of dollars on the black market was actually lower than the official rate.

The black market rate crossed the $\text{£}300 = \$1$ threshold at the end of April 2015, reflecting concerns about rebel military gains in Idleb and Deraa governorates.

In the course of 2011 the official rate declined by about 10 per cent and the black market rate by 20 per cent. The rate of depreciation accelerated in 2012 to 25 per cent for both markets; and in 2013 the official rate fell by 46 per cent and the black market rate by about 40 per cent. Depreciation slowed during 2014, with the official rate weakening by 18 per cent and the black market rate by 27 per cent. In the four years since March 2011 the official rate has fallen by 78 per cent overall (as at June 2015), and the black market rate by 83 per cent. A further increase in the rate of depreciation during the first quarter of 2015 is likely to reflect the depletion of the central bank's foreign exchange holdings. This in turn could be related to the running down of the package of credit agreed with Iran in July 2013, which had helped the central bank to stabilize the market after the sudden jump in the black market rate at that time. Under the arrangement, Iran opened a \$3.6 billion credit line for oil imports and a \$1 billion line for other imports, but, as previously noted, by late 2014 most of those funds had been used up. The black market rate crossed the $\text{£}300 = \$1$ threshold at the end of April 2015, reflecting concerns about rebel military gains in Idleb and Deraa governorates.

Figure 8: Exchange rate, January 2012–April 2015

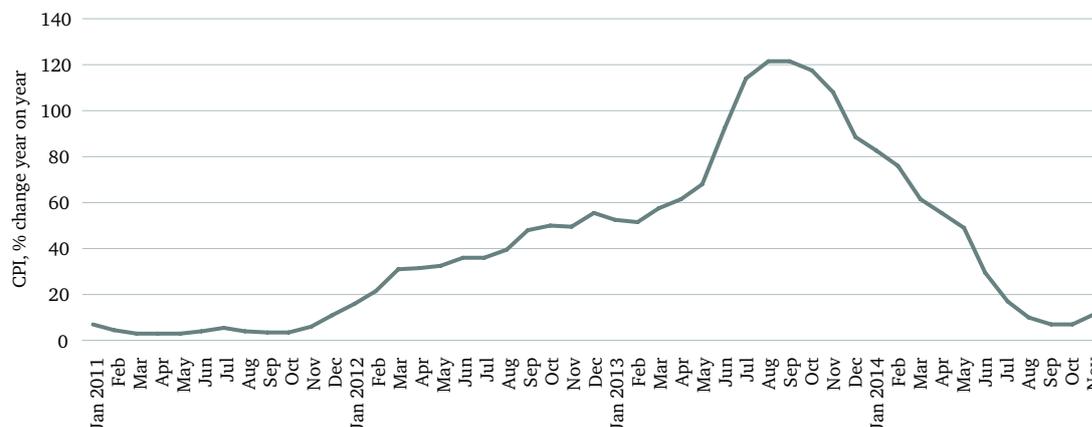


Sources: Central Bank of Syria; *Al-Watan* newspaper, Damascus; syria-news web news agency.

Another indicator that the Syrian government has updated periodically has been the consumer price index (CPI), showing the rate of inflation nationally and at governorate level. Since the end of 2013 CPI data have been released by the Central Bureau of Statistics in three-monthly batches, five or six months after the end of the period covered. The most recent cluster of data was issued in March 2015, covering the period between September and November 2014. The index was rebased, with effect from the beginning of 2014, with the base year adjusted to 2010 from 2005. There was also a slight change to the weightings, but food remained the main component (accounting for about 40 per cent of the index).

The year-on-year rate of inflation peaked at about 120 per cent in July and August 2013 (the point at which the black market rate for the US dollar reached its record level). The subsequent easing of inflation may have been helped by the boost in Iranian economic aid agreed in July. The average annual rate of inflation rose from 4.2 per cent in 2011 to 37 per cent in 2012, and to 88 per cent in 2013. In the first 11 months of 2014 the average rate of inflation was 36.8 per cent. The rate actually declined during this period, falling to 9.7 per cent in August – the first time it had been in single figures since November 2011 – and then to 6.7 per cent in September; the rate rose slightly in October, to 7.1 per cent, and more steeply in November, to 11.2 per cent. Inflation reached 23.7 per cent year on year in January 2015.

Figure 9: Inflation, January 2011–November 2014



Source: Central Bureau of Statistics.

The CPI data show considerable regional variations. The index is lowest overall in relatively secure areas, such as Latakia and Tartous, on the Mediterranean coast, and Sweida, in the southeast corner. The index is highest in Aleppo, followed by Raqqa, Deir el-Zor and rural Damascus. In November 2014 the CPI for Aleppo was 375.8, compared with 303.9 for Latakia. However, during the first 11 months of 2014 the Aleppo index rose by only 4.3 per cent, whereas it rose by 16.1 per cent in Latakia and 20.8 per cent in Tartous. This may reflect the different patterns of demand, not least as a large part of Aleppo's former population has left the city and a significant proportion of the internally displaced population have migrated to the coastal region.

Trade

The pattern of Syria's trade has changed radically as a result of the conflict. The collapse of oil exports and the damage inflicted on agriculture and on manufacturing industries have caused exports to fall to only a fraction of the average of about \$12 billion per year in 2006–10. According to the Export Promotion and Development Agency, exports slumped to \$2.1 billion in 2012 and to \$1.2 billion in 2013, although the agency reported a modest recovery to \$2.1 billion in the first nine months of 2014.³⁰ The principal exports in 2014 were phosphates, sheep, fruit and vegetables, dairy products and semi-finished products.

The structure of imports has been affected by sanctions, as well as by the loss of self-sufficiency in oil and cereals. Prior to the conflict, the EU supplied about one-quarter of Syria's imports, which totalled some \$17 billion in 2010 (including about \$3 billion in petroleum products). Turkey was the largest individual supplier, with about 10 per cent of the market, followed by China (8 per cent), Russia and Ukraine (just over 6 per cent each). Imports from Iran were a relatively negligible \$300 million (although the official figures do not include sales of military equipment).³¹ About two-thirds of pre-conflict imports were procured by the private sector. Government trade data since 2010 have been patchy, mainly consisting of statements by various officials to the local media. The head of the customs directorate, Majdi al-Hikmieh, has stated that imports in 2014 had totalled £1.3 trillion (equivalent to \$7.4 billion at the average official exchange rate during the year);³² al-Hikmieh was also quoted as saying that imports from Russia had been about \$1 billion. Given that these figures are presumed not to include military equipment, most of the imports from Russia would probably have been wheat and petroleum products. A large part of the remaining imports in 2014 would have been made up by the supply of oil and petroleum products under the Iranian line of credit, together with other supplies from Iran – including food, medicines, and equipment and spare parts for the power sector.

The most detailed data on trade with Syria are provided by Turkstat, the Turkish statistics agency, which gives monthly totals for both exports to and imports from Syria as part of its global trade bulletins. Trade with Turkey flourished in the pre-conflict period, helped by the free-trade agreement between the two countries that came into force in 2007. By 2010 the value of Turkish exports to Syria had reached \$1.8 billion, while Syrian exports to Turkey reached \$452 million. The bias in favour of Turkey was a cause of some disquiet within Syria, but a significant proportion of imports from Turkey was made up of capital and intermediate goods used in export-oriented Syrian industries. Bilateral trade dropped away sharply after 2011, with Turkish sales reaching a low point of \$500 million in 2012 and Syrian exports dropping to \$67 million in the same year. However, Turkish exports to

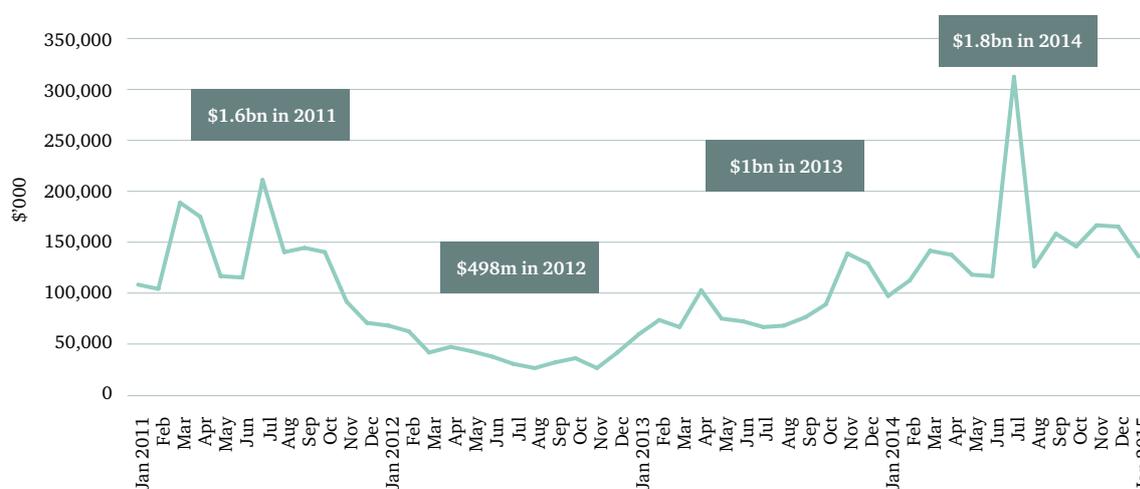
³⁰ Cited in *The Syria Report*, 17 November 2014.

³¹ Central Bank of Syria.

³² Cited in *The Syria Report*, 16 February 2015.

Syria recovered to \$1 billion in 2013 and rose to the pre-conflict record level of \$1.8 billion in 2014. The latter figure was, however, distorted by a spike in Turkish exports to Syria in July, to \$311 million, compared with a monthly average of \$135 million in the rest the year. It is not clear what caused this surge in Turkish exports, but it coincided with the height of the advances by ISIS in both Iraq and Syria, and some of the additional sales could have been accounted for by additional procurement from Turkey by ISIS – for example steel pipes and sections for oil refining projects. Syrian exports to Turkey have witnessed a modest recovery since 2012, to \$84 million in 2013 and \$115 million in 2014.

Figure 10: Turkish exports to Syria, January 2011–January 2015



Source: Central Bureau of Statistics.

An important aspect of the trade relationship with Turkey has been the shift of Syrian businesses over the border. According to Turkish official sources cited by *The Syria Report*, about 25 per cent of the 4,249 companies with foreign shareholders that were set up in Turkey in the first 11 months of 2014 included Syrian investors. Companies including Syrian investors also topped the ranking in 2013, but at 12.6 per cent of the total. The head of the chamber of commerce of the port city of Mersin, in southeastern Turkey, was quoted as saying that the large increase in exports from the city to Syria was due to the activities of Syrian businesses that had relocated to the area.³³

The official trade data do not include the considerable volumes of smuggling across the Turkish border, including oil and petroleum products to the value of several hundred million dollars that have found their way on to the Turkish market from areas under ISIS control.

The data provided by the Lebanese authorities on trade with Syria similarly give only a very partial picture. According to Lebanese customs figures cited by *The Syria Report*, the value of Syrian exports to Lebanon has declined steadily over the course of the conflict, from just over \$300 million in 2011 to \$125 million in 2014. Lebanese exports to Syria climbed from \$215 million by value in 2011 to \$524 million in 2013; however, this mainly reflected the higher volume of fuel imports via Lebanon until mid-2013 – at which time Syria began large-scale imports of crude oil under the Iranian line of credit. Lebanese exports to Syria dipped to \$242 million in 2014, as sales of petroleum products fell from \$323 million to just \$16 million.

³³ Ibid.

Jordanian data do not include Syria among the country's leading trading partners, and there are no recent figures available for Iraqi trade with Syria.

Corporate reporting

Syria's private banking system and capital market were still in their formative stages when the uprising started in early 2011, but their performance since then provides some insights into this small segment of the economy. The 14 private banks had by 2010 become an important part of the Syrian financial sector, accounting for 27 per cent of total banking assets of about \$40 billion. These private banks attracted a significant share of foreign currency deposits in the market, and played an increasingly important role in providing finance for the private sector; there were only rare instances of these banks lending to the public sector. Over the four years of conflict hitherto, the banks have been obliged to write off a large part of their loan portfolios, but they have been able to keep afloat because of their solid deposit base and their substantial foreign currency capital. A considerable part of the banks' activity now entails placing these deposits with other banks. The banks have also been able to make significant paper profits on the back of gains from the revaluation of their foreign exchange capital as the Syrian pound has depreciated. In Syrian pound terms, the banks' consolidated assets have risen by almost one-third since the end of 2010, but in US dollar terms their balance sheet has shrunk from \$13.8 billion to \$5.1 billion.

Besides the banks, the largest companies that still report to the SCFMS are the two mobile phone operators, MTN Syria and Syriatel. The most recent full-year results showed that in 2014 the two companies together made total revenues of £125 billion (\$690 million at the end-year exchange rate). As part of their BOT contracts, MTN and Syriatel each handed over around half their top-line revenue to the Syrian Telecommunications Establishment – a significant source of income for the government. MTN has about 5.7 million subscribers, and Syriatel just over 6 million.

In early 2015 the companies announced that that agreements had been reached to convert the two BOT contracts into licences. MTN stated that it had paid £25 billion for its 20-year licence. Syriatel did not disclose any sum, and noted that its arrangement was contingent on some legal issues being resolved. The licence deal requires the companies to hand over 50 per cent of their gross revenue in 2015, with the share falling to 30 per cent in 2016–17 and 20 per cent for the remainder of the licence period.³⁴

The DSE has continued to operate, but at a very subdued level, with trade on the stock exchange valued at only \$18 million during 2014, and a market capitalization of about \$700 million – of which 80 per cent was accounted for by banks.

³⁴ Company reports published by the SCFMS.

Clinging on to Institutional Integrity: Current Realities and Possible Scenarios

Amid the carnage and destruction of the past four years, Syria's economy and its administrative institutions have continued to function. The Assad regime may only control about half the physical area of Syria, but the government still has a presence of some sort across most of the country; the Syrian pound remains the principal currency for the purchase and sale of goods and services; and infrastructure services still operate, by and large, on a national basis. However, this institutional presence is frayed at the edges: ISIS has established a degree of administrative and financial autonomy in Raqqa and down the Euphrates valley to the Iraqi border; the Kurdish cantons in the north and the northeast have also achieved a form of autonomy, based on a very different political and social model to that of ISIS; alliances of Islamist forces and the Free Syrian Army have seized control of the provincial capital of Idleb in the north and of the Nasib border crossing with Jordan in the south. As ISIS, the Kurds and the rebel groups that oppose the Assad regime have developed their own administrative structures, the economic reach of the central government has diminished. A similar process of dilution has occurred as a result of the increased importance of the UN and NGOs in providing humanitarian support to much of the population.

The relationship between the state of the economy and its underlying institutions on one side, and the political and military position of the Assad regime on the other, will be a critical element in the conflict's evolution. During 2014 the regime managed to consolidate its military position, and even made some gains – for example in Homs and around Damascus. Some of Syria's economic indicators showed improvement meanwhile: the rate of real GDP contraction slowed; inflation and the rate of currency depreciation eased; exports increased; and the government strengthened its fiscal position through effectively ending fuel subsidies particularly for consumers. In the first half of 2015, however, there have been increasing signs of strain on both the military and the economic fronts. The regime has lost ground to rebel forces, and the Syrian pound has depreciated at the fastest rate since the conflict began. Furthermore, continued support from Iran, in the form of oil supplies and import credits, will come with political and economic conditions. The question arises as to whether a dramatic worsening in the economic situation might be the catalyst for the regime's military collapse or for an externally imposed political settlement against Assad's wishes; or whether further military setbacks might be the trigger for the government's economic collapse.

About the Author

David Butter is an associate fellow in the Middle East and North Africa Programme at Chatham House. He has worked extensively on Middle East political, economic and business affairs since the late 1970s, first as a reporter in Beirut for Interpress news agency, and later, in 1984–2000, as a reporter and ultimately editor of *Middle East Economic Digest* (MEED). In 2002 he moved to the Economist Intelligence Unit, where he became regional director for the Middle East and North Africa. He is currently working on consultancy and freelance journalism assignments on Middle East topics.

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The Syria and its Neighbours Policy Initiative

This paper forms part of the Chatham House Middle East and North Africa Programme's ongoing Syria and its Neighbours Policy Initiative. The Initiative aims to support a coordinated and holistic policy response to the conflict in Syria and its long-term regional implications, with a particular focus on the country's immediate neighbours. It is doing so through the conduct of three cross-cutting research streams.

Refugees: Looks at the long-term challenges of the refugee crisis, examining how host governments can best navigate political, economic and social challenges to build the resilience of local and refugee communities. This stream also assesses the prospects of return for refugees, particularly the factors that are likely to inform their decision.

Political and economic inclusion: Explores how a lack of political and economic inclusion in Syria and the neighbouring states has entrenched grievances and fostered conflict. This stream will analyse how the Syrian crisis has impacted developments in Iraq and in transnational Kurdish dynamics, as well as the status of marginalized communities across the region.

The future of the Syrian state: This research stream will examine the long-term implications of potential outcomes in the Syrian conflict in critical sectors. These are likely to include: economic governance and reconstruction; models of governance; and the role of regional powers.

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