

14 The potential economic impact of Aid for Trade in the MENA region: the case of Jordan

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14.1 Introduction

Many developing and least-developed countries (LDCs) remain on the margins of global trade, attract limited foreign or domestic investment, and have achieved only very limited success in the diversification of their supply of goods and services. Within the framework of Aid for Trade (AFT), attempts are being made to explore strategies to connect firms in developing countries and LDCs to international value chains. The World Trade Organization (WTO) has defined AFT as projects and programmes that have been identified as trade development priorities in the recipient country's national development strategies. The AFT Task Force¹ established in 2006 underlined that clear and agreed benchmarks are necessary for the global monitoring of AFT efforts. The following categories of AFT were identified: trade policy and regulations (including trade facilitation); trade development; trade-related infrastructure; building productive capacity; trade-related adjustment; and other trade-related needs. According to the United Nations Development Programme (UNDP), developing countries that have participated in international trade – including trade with other emerging economies – make rapid progress in poverty reduction and job creation (UNDP, 2013).

The recently signed Aid for Trade Initiative for Arab States will spearhead trade reforms in Arab countries in the Middle East and North Africa (MENA) region, with the aim of bringing about pro-poor economic growth.² The most notable coordination

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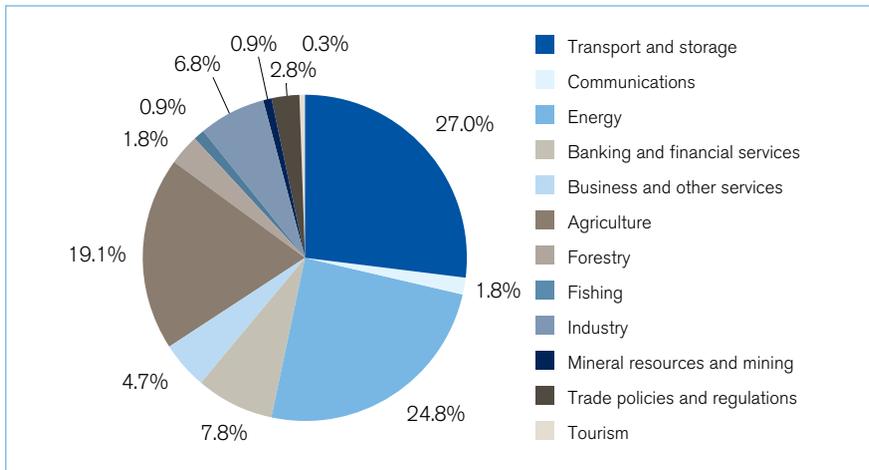
programme in the Arab region is Enhancing Arab Capacity for Trade (EnACT), which involves Algeria, Egypt, Jordan, Morocco and Tunisia. It provides trade intelligence and enhances exporter competitiveness with a focus on gender and youth. Ongoing initiatives draw heavily on local/regional expertise to build capacity.³ Most recently, the International Islamic Trade Finance Corporation (ITFC), in partnership with the International Trade Centre (ITC), UNDP, United Nations Conference on Trade and Development (UNCTAD) and United Nations Industrial Development Organization (UNIDO), launched a new project entitled “Building Export Capacities for Regional Integration in the Arab States”, covering the period from March 2013 to December 2014. The purpose of this large, multi-agency programme is to foster inclusive economic growth and increased employment in the Arab states through the promotion of trade reforms and the broader development agenda, and the deepening of regional integration and regional and national AFT engagement.⁴

This chapter is structured as follows: Section II outlines the structure of AFT in the MENA region, Section III covers the regional impact of AFT, Section IV analyses the economic impact of AFT on Jordanian economic growth, and Section V provides policy recommendations and concluding remarks.

14.2 The structure of AFT in the Middle East and North Africa region

The largest proportion of AFT for developing countries in 2011 (54 per cent) was devoted to financing better economic infrastructures, in areas such as transportation, communications and energy supply (see Figure 1). This was followed by spending on agriculture and fishing (20 per cent), capacity-building (19 per cent) and industry (7 per cent). AFT aims to enable both developing countries and LDCs to build up their supply-side capacity and trade-related infrastructure to expand their trade opportunities. In particular, the ITC focuses its AFT on empowering beneficiary countries to build up the technical capacity of their private sectors and ensuring their viewpoints are taken on board in the AFT strategy. Trade policy and regulation received the remaining 3 per cent of total AFT funding to the region in 2011. Improved infrastructure is expected to provide an important stimulus to both donor and recipient exports. In fact, it might even be suspected that donors target AFT by selecting infrastructure projects that primarily serve their own export interests (Hoeffler and Outram, 2011; Hühne, Meyer and Nunnenkamp, 2013).

Figure 1 Composition of AFT to developing countries, by major sector, 2011

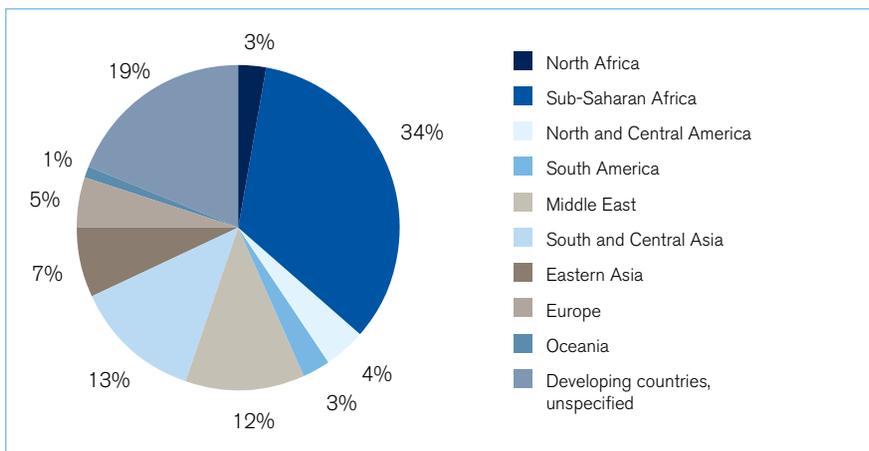


Source: OECD database (<http://stats.oecd.org>).

Note: Covers AFT from all donors who are members of the OECD's Development Assistance Committee (DAC).

The regional distribution of total AFT for the period 2002-2011 is shown in Figure 2. As might be expected, the largest share went to sub-Saharan Africa (34 per cent), followed by the South and Central Asia and Middle East regions (13 per cent and 12 per cent, respectively). The smallest shares were received by North and Central America (4 per cent), South America (3 per cent), North Africa (3 per cent) and Oceania (1 per cent).

Figure 2 Composition of AFT by region, 2002-2011



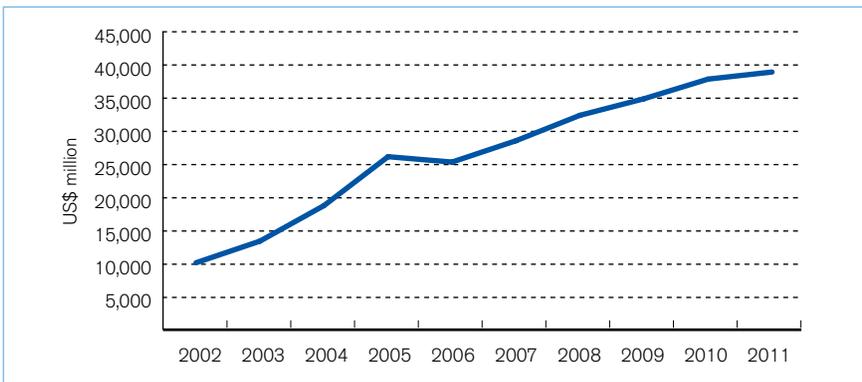
Source: OECD database (<http://stats.oecd.org>).

Note: Covers AFT from all donors who are members of the OECD's Development Assistance Committee (DAC).

14.3 The regional impact of AFT

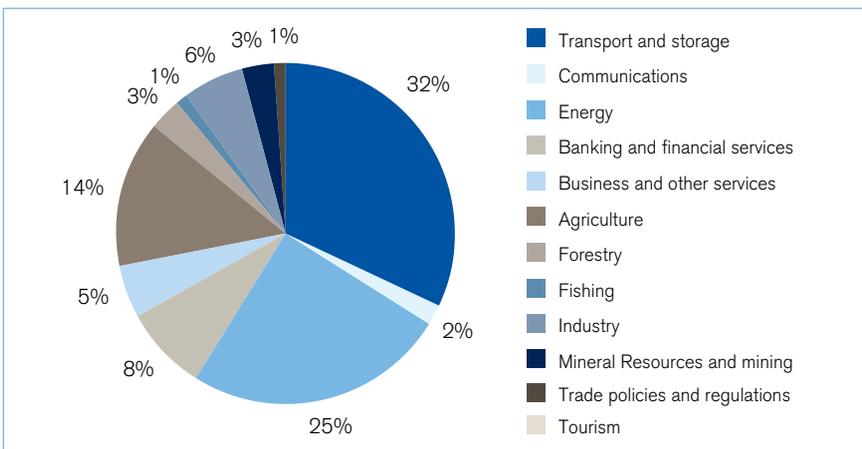
As shown in Figure 3, the total value of AFT for the MENA region increased rapidly during the period 2002-2011, from US\$ 10,211 million in 2002 to US\$ 39,039 million in 2011. This amounts to an average annual increase of 28.2 per cent during the period. Most of the aid went to the transport and storage sector (32 per cent), energy sector (25 per cent), industry, energy and agriculture sectors (14 per cent), and banking and financial services sectors (8 per cent) (see Figure 4).

Figure 3 AFT disbursed to selected MENA region countries, ⁵ 2002-2011



Source: OECD, International development statistics (<http://stats.oecd.org/qwids/>).

Figure 4 AFT disbursed to selected MENA region countries by main sector, 2002-2011



Source: OECD, International development statistics (<http://stats.oecd.org/qwids/>).

The following analysis provides a tentative assessment of possible impacts of AFT by comparing the behaviour of some selected indicators in the two periods before and after the launching of the AFT initiative in 2005.

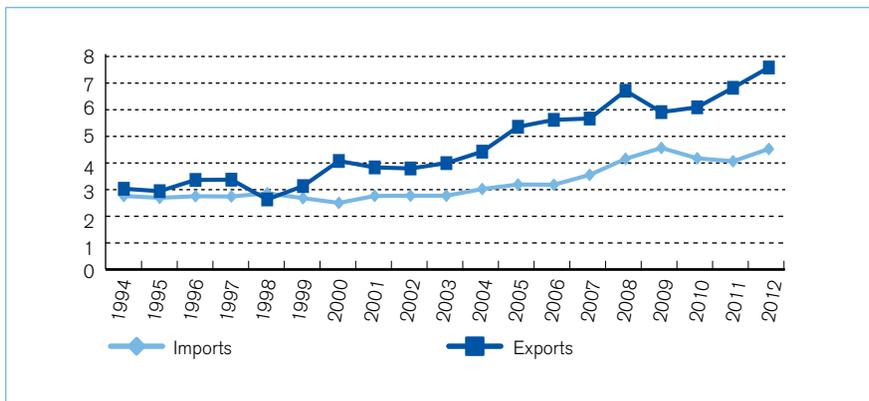
Trade share

Figure 5 demonstrates stagnation in the MENA region's share of world trade in the 1990s, with clear improvements starting around 2004. While the MENA region accounted for about 3 per cent of the world exports and 4 per cent of world imports in 2000, by 2012 it had increased to about 4.6 per cent of imports and 7.7 per cent of exports. However, it should be noted that sharp oil price increases were behind the significant improvements in MENA export performance after 2010 which can be observed in Figure 5.

Trade openness

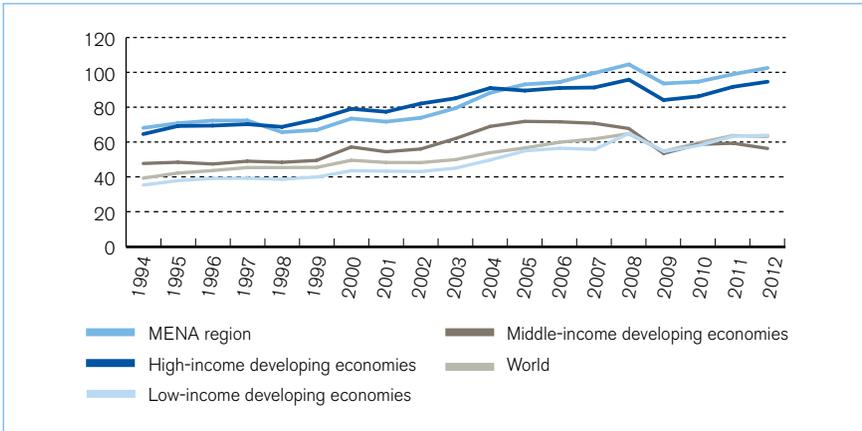
Another relevant indicator of the potential impact of AFT on the region is trade openness as measured by the ratio of trade to GDP. Figure 6 shows how the ratios of trade to GDP evolved over time. The MENA states' trade openness fell to about 63 per cent in the late 1990s but rose to around 100 per cent by 2012. World trade openness rose in the 1990s and continued to rise during the rest of period, although at a slow rate. Figure 6 illustrates that the MENA states' trade openness ratio was never below the world's ratio, and even surpassed that for high-income developing countries from 2005.

Figure 5 Selected MENA region countries' trade as share of world trade, 1994-2012



Source: UNCTAD (<http://unctadstat.unctad.org>).

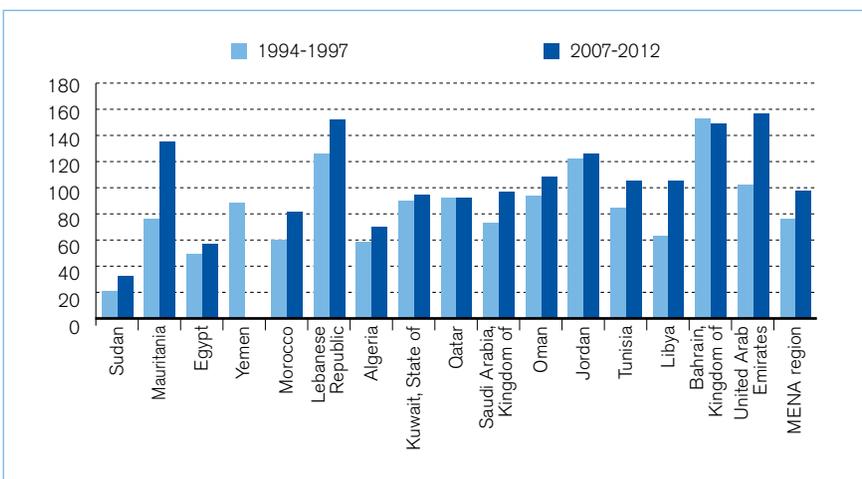
Figure 6 Selected MENA region countries' trade as percentage of GDP



Source: UNCTAD (<http://unctadstat.unctad.org>).

To see the trade openness picture at the country level, Figure 7 compares the ratio of merchandise trade to GDP in the mid-90s and for 2007-2012, for individual MENA countries. The aggregate measure for the MENA region represents most of the countries in the region; with some variation, most of these countries experienced a rise in their trade openness over the period. However, it is clear that trade-to-GDP ratios rose in the rest of the world as well.

Figure 7 Merchandise trade as a percentage of GDP, 1994-1997 and 2007-2012



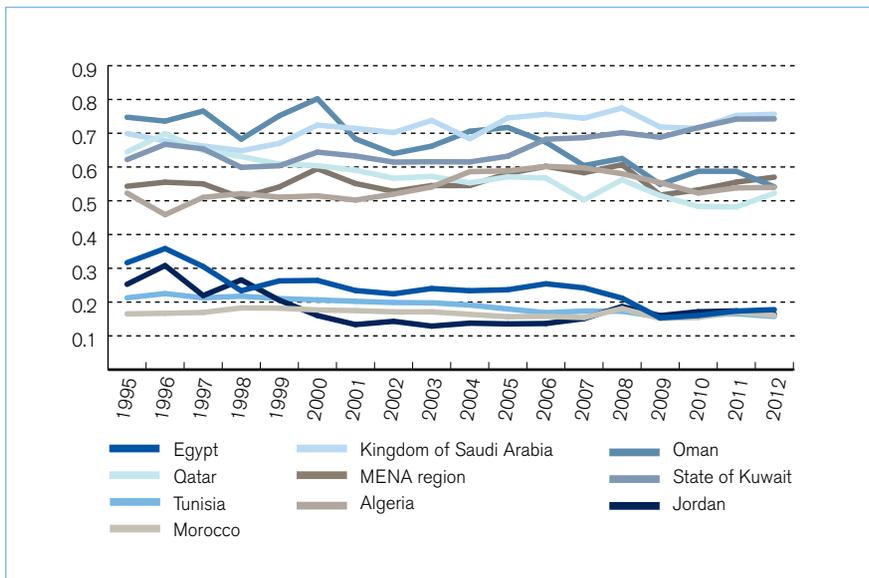
Source: UNCTAD (<http://unctadstat.unctad.org>).

Export diversification

The exports concentration index is a commonly used measure of exports diversification. For values between zero and one, the higher the value, the lower the export diversification. Figure 8 shows the exports concentration index for selected MENA countries during the period 1995-2012. As illustrated, all countries have a stagnant trend with an only slightly varying degree, which reflects very limited success in exports diversification. As might be expected, countries such as Egypt, Jordan, Morocco and Tunisia have a lower concentration index than Algeria, the State of Kuwait, Oman, Qatar and the Kingdom of Saudi Arabia, which can be described as natural-resource-abundant countries. However, within this latter group of countries, Oman and Qatar showed better improvements in export diversification compared to other countries in this group.

In each of the countries in the sample that have abundant natural and oil resources (Algeria, the State of Kuwait, Oman, Qatar and the Kingdom of Saudi Arabia), the top four exports have dominated total exports (accounting for more than 90 per cent). This explains the high degree of export concentration witnessed in these countries.

Figure 8 Export concentration index in selected MENA countries, 1995-2012



Source: Author's calculations based on the World Integrated Trade Solution (WITS) database (<https://wits.worldbank.org/WITS/WITS/Restricted/Login.aspx>).

For the other, non-oil-rich countries, the contribution of the top four exports to total exports is much smaller, reflecting greater export diversification, as shown in Figure 8.

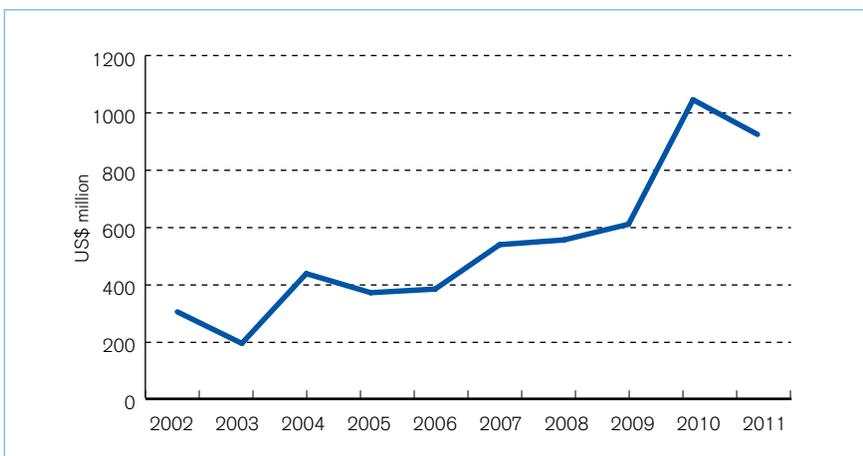
In a recent study by Spetan and Saqfalhait (2013), export diversification was found to be an extremely insignificant determinant with respect to growth, indicating that for the group of MENA countries covered in their study, diversification has not improved enough to be an important determinant to growth.

14.4 The economic impact of AFT on Jordan

This part of the chapter provides a single-country analysis, taking Jordan as a case study. As shown in Figure 9, total AFT allocated to Jordan more than tripled during the period 2002-2011, increasing from US\$ 305 million in 2002 to US\$ 919 million in 2011. Most aid was allocated to energy (39 per cent), business and other services (16 per cent), trade policies and regulations (12 per cent), and industry (11 per cent) (see Figure 10).

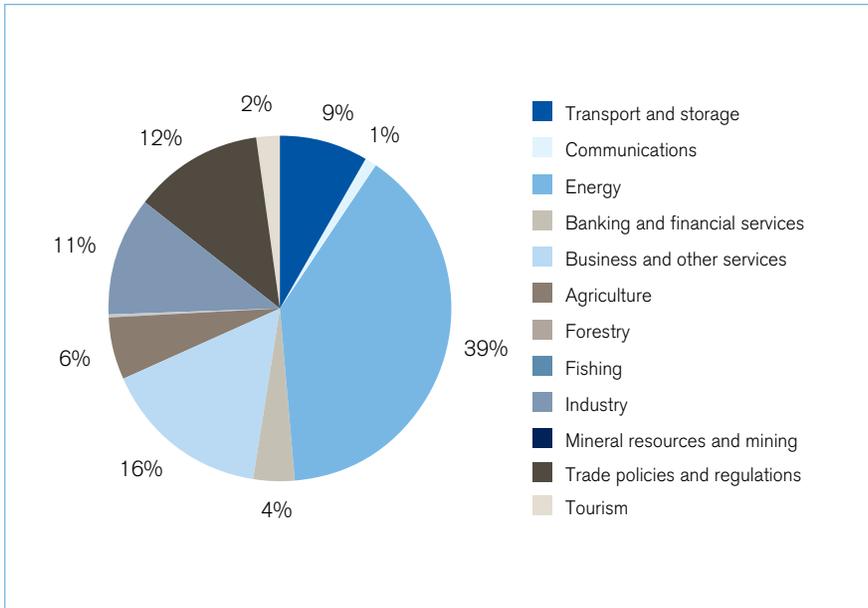
As in the regional analysis above, a comparison of the behaviour of selected indicators before and after the launch of the AFT programme will be presented in this chapter. In addition, a simple economic growth model will be utilized to evaluate the impact of AFT on real economic growth in Jordan.

Figure 9 AFT disbursed to Jordan, 2002-2011



Source: OECD, International development statistics (<http://stats.oecd.org/qwids/>).

Figure 10 AFT disbursed to Jordan by main sector, 2002-2011

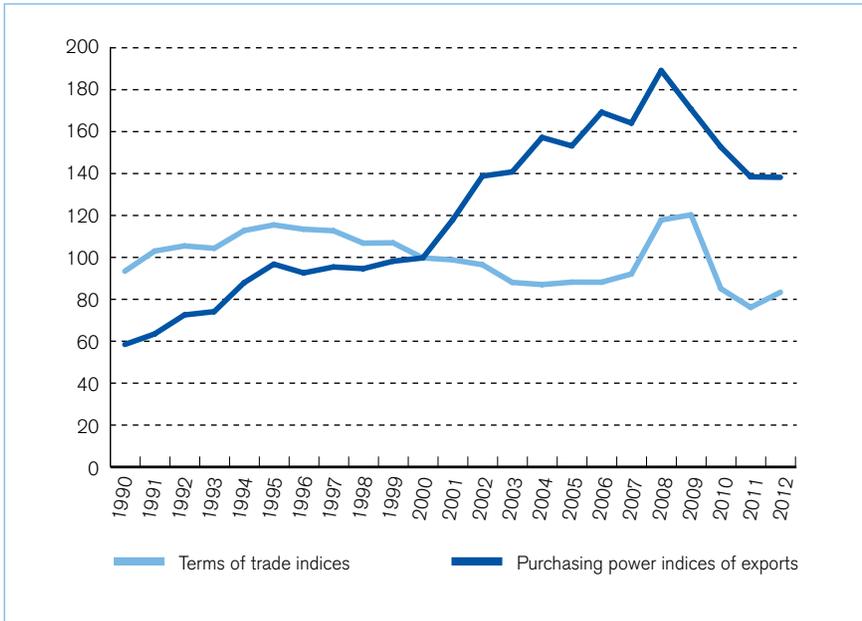


Source: OECD, International development statistics (<http://stats.oecd.org/qwids/>).

Terms of trade and competitiveness effects

Figure 11 shows the general trend of both terms of trade and purchasing power of exports for the period 1990-2012. Jordan's purchasing power index of exports increased continuously up to 2009, indicating a strong export position during that period. However, this trend was reversed after 2009, apparently because of the global crisis, followed by the impact of the Arab Spring after 2010. Jordan's terms of trade were stable with a slight downward trend up to 2005, and then increased up to 2009. Terms of trade for the purchasing power index of exports dropped sharply after 2009 for the same reasons mentioned above. This deterioration in terms of trade may have been useful improving the competitiveness of Jordanian exports. It can be concluded that after the AFT initiative became effective in 2005, Jordan's terms of trade declined, reflecting improved international competitiveness. However, this trend was interrupted by the negative impacts of both the global economic crisis and the Arab Spring after 2009 and 2010.

Figure 11 Jordan's terms of trade and purchasing power of exports, 1990-2012

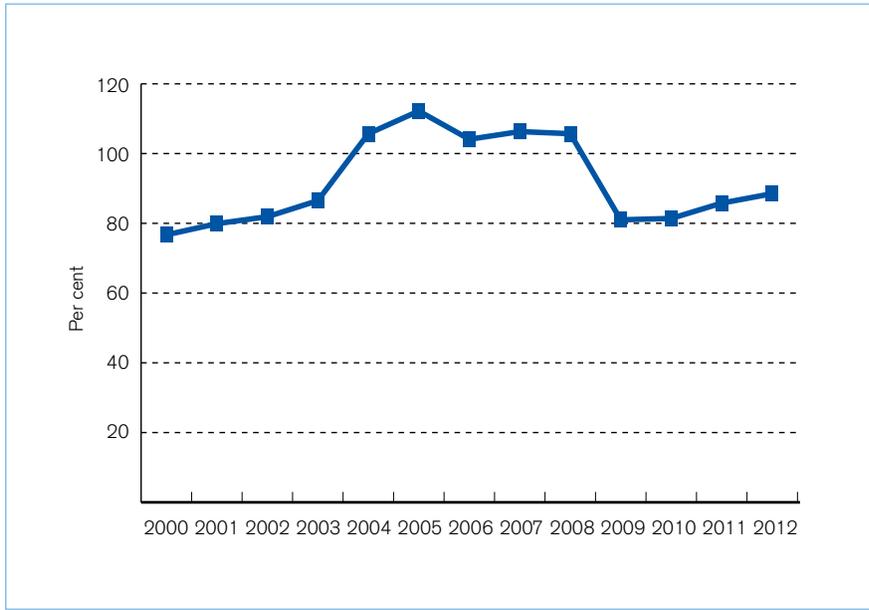


Source: Author's calculations based on UNCTADstat.

Jordan was consistently ranked as one of the top 50 most competitive economies worldwide for the years under review (except for 2010) (according to the World Economic Forum's *The Global Competitiveness Report*).⁶ The factors behind this accomplishment are the high quality of Jordan's human capital (a consequence of high levels of education and training), political stability, strong institutions and infrastructure. These are Jordan's competitive advantages, which continue to compare favourably with other countries, both regionally and globally. Jordan's weaknesses lie in the country's unstable macroeconomic environment, inefficient labour market and small market size.

Trade openness

Jordan has followed an aggressive trade liberalization policy to promote economic growth during the last two decades. The country has entered into various bilateral and regional trade agreements, and has lowered tariffs and other impediments to trade such as behind-the-border constraints and non-tariff barriers (NTBs) in order to promote trade openness.

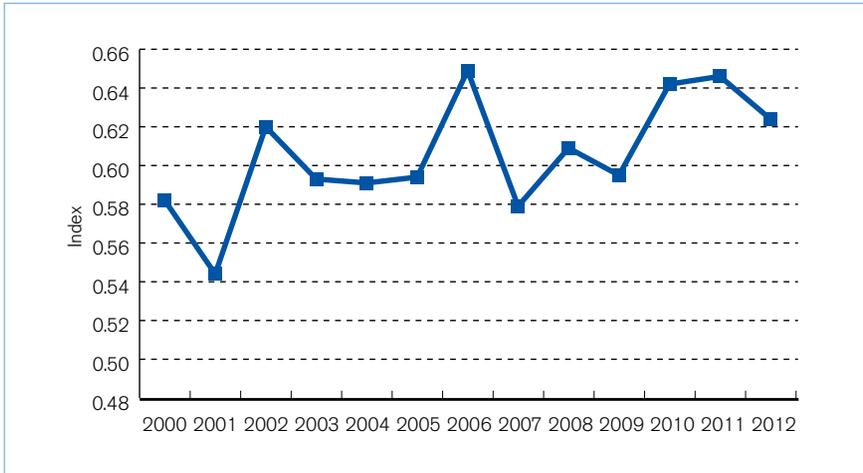
Figure 12 Jordan's total trade as a percentage of GDP, 2000-2012

Source: Author's calculations based on the Central Bank of Jordan databank (<http://www.cbj.gov.jo/>).

As shown in Figure 12, trade openness accelerated soon after Jordan joined the WTO in 2000, and continued until 2005. The trend stabilized at around 110 per cent during 2006-2008, and then dropped sharply in 2009 after the global economic crisis, although it subsequently revived. Figure 12 also provides limited evidence of the impact of the AFT initiative on trade openness.

Export diversification

Jordan's exports of clothes, potash, medical and pharmaceutical products, vegetables, fertilizers and phosphates topped the list of exported commodities in the period 2000-2012.⁷ As shown in Figure 13, the five-degree measure of export diversification slightly increased after 2005, indicating a minor setback in export diversification after the launching of the AFT initiative. This result is in line with the findings of Spetan and Saqfalhait (2013) that export diversification does not act as a growth determinant in the case of Jordan.

Figure 13 Diversification of Jordan's merchandise exports, 2000-2012

Source: UNCTAD (<http://unctadstat.unctad.org>).

Note: Figure 13 measures the share of the top five export sectors to total exports.

AFT and economic growth: econometric analysis

To examine the relationship between AFT and real economic growth, a classic macroeconomic growth model has been adapted and estimated using conventional econometric techniques. The econometric model to be estimated can be written as:

$$\text{dlog } Y_t = b_0 + b_1 \text{dlog}(\text{capital}) + b_2 \text{dlog}(\text{labour}) + b_3 \text{dlog}(\text{land}) + b_4 (\text{policy}) + b_5 (\text{A4T}) + e_t$$

$$\text{with } (e_t = \text{random disturbances}) \quad (1)$$

The coefficient of the policy variable added to the production function in equation (1) measures the impact of other policy variables on technological changes after controlling for the impact of factors of production. The rate of growth in output is calculated as the log differences of annual real GDP values; all other variables are similarly calculated with the exception of the policy variable(s). Due to the lack of sufficient quantitative data, the AFT variable (A4T) is represented by a dummy variable taking the value of 1 for 2006 and thereafter, and 0 otherwise.

A major challenge facing econometric analysis is data limitation on the AFT variable, since the AFT initiative took place in 2005 and became effective in 2006. A sample of annual data covering the period 1980-2010 has been prepared using the databases of the Central Bank of Jordan and the World Bank. Consistent with the

Table 1 Correlation coefficients, using the observations 1980-2010

ld_rgdg	ld_labor1	ld_pop	ld_remit	ld_capf	
1.0000	0.0754	-0.0580	0.7668	0.3427	ld_rgdg
	1.0000	0.8057	0.0362	-0.0629	ld_labor1
		1.0000	-0.0469	-0.1941	ld_pop
			1.0000	0.4211	ld_remit
				1.0000	ld_capf
		ld_fding	ld_gsize	tradeo	
		0.0451	-0.1751	0.0601	ld_rgdg
		-0.0760	0.0177	0.3326	ld_labor1
		-0.0794	0.0347	0.2213	ld_pop
		-0.0750	-0.0600	0.1266	ld_remit
		-0.0521	-0.2978	0.1903	ld_capf
		1.0000	0.0346	-0.0805	ld_fding
			1.0000	0.0433	ld_gsize
				1.0000	tradeo

Source: Author's calculations.

theoretical model explained earlier, the estimated equation included the annual growth rate of the following variables: real GDP (ld_rgdg), area of utilized land in production (ld_alandu), gross fixed capital formation at constant prices (ld_capf), labour force (ld_labor), foreign direct investment (FDI) inflows (ld_fding), workers' remittances (ld_remit) and AFT (A4T).

Inspection of the correlation matrix of the model variables (see Table 1) reveals that the growth of real GDP is positively and strongly correlated with the growth of worker remittances (0.767) and the growth of gross capital formation (0.34). No significant correlation is detected among explanatory variables, which can be considered as an initial indication of no multicollinearity problem. The only exception is the high correlation coefficient between growth rates of labour and population (0.81), which may suggest that each one can be taken as a good proxy of the other.

As the first necessary step before turning to the model estimation, all the model variables must be checked for unit root to make sure that they are stationary. The result of applying the ADF unit root test indicates that all variables are stationary and ensure non-spurious regression results. The constant was dropped from the estimated equation consistent with the specification of the growth model. The growth equation was estimated first by OLS and tested for both autocorrelation and heteroscedasticity. Although no evidence of serial correlation was detected, the Breusch-Pagan test indicated the existence of heteroscedasticity (Wooldridge, 2009). Therefore, the model was re-estimated after correcting for heteroscedasticity, and the result is shown in Table 2.

Table 2 Macroeconomic growth model, heteroscedasticity corrected, using observations 1981-2010

	Coefficient	Std. error	t-ratio
ld_labour	0.411014	0.0321100	12.80
ld_alandu	0.0204904	0.0131853	1.554
ld_capf	0.0609170	0.0150442	4.049
ld_remit	0.170534	0.0109724	15.54
ld_fdinf	0.00126	0.000569684	2.218
A4T	0.0357285	0.0046038	7.76
Adj. R-squared = 0.939322		F(6, 24) = 75.65492	

Source: Author's calculations.

Note: Dependent variable: ld_rgdp

The model overall fits very well, as shown by the relatively highly-adjusted R-squared value (94 per cent) and highly significant Fisher F-test value (75.7). Variance inflation factors for all model variables turned out to be very close to 1, indicating the absence of multicollinearity. All estimated coefficients carry the correct expected sign. In addition, all coefficients are statistically significant at the level of 5 per cent or better, with the exception of the coefficient of the utilized land variable which, although carrying the correct sign, is statistically insignificant. The coefficients of labour and worker remittances were the largest and most significant, indicating the importance of both variables to economic growth in the Jordanian economy. The FDI coefficient is very small in size and only marginally significant, indicating a mild positive effect of FDI openness on economic growth. Turning to the AFT coefficient (A4T), which is the focus of this study, its estimate, 0.036, turned out to be highly significant at better than the 1 per cent level. It means that the launch of the AFT programme has contributed positively to real economic growth, by 0.036 per cent annually. However, this result must be taken with great caution since AFT is a dummy variable and may reflect other impacts of unspecified developments.

14.5 Policy implications and concluding remarks

This study analyses the impact of the AFT programme at both regional and single-country levels. It presents empirical evidence of the impact of the programme in the MENA region, on export diversification, market share, trade openness and competitiveness (of selected countries). The study finds evidence of the positive impact of AFT in all these areas. However, the impacts on export diversification were mixed and vary across countries.

The case of Jordan is interesting since it provides a good example of a small country with very limited natural resources, but which has been able to achieve good economic performance. The factors behind this accomplishment are the high quality of human capital, political stability, strong institutions and infrastructure. These are Jordan's competitive advantages, and they continue to allow Jordan to compare favourably with other countries, both regionally and globally. Policy-makers in Jordan should continue the ongoing process of economic reform to get rid of all market distortions and upgrade technology and skills to meet the requirements of Jordan's production base and exports. The long-adopted policy of investing in human capital has proven fruitful and should continue to be applied vigorously.

As mentioned by Diop, Marotta and de Melo (2012), fiscal policy has not contributed significantly to diversification in the MENA region, because it has been more oriented towards food and fuel subsidies (consumption) rather than public goods such as infrastructure. Policy reform at the macroeconomic level can hardly be separated from diversification policy; furthermore, such reforms and policy actions generally reinforce each other. Therefore, additional efforts should be taken to address supply-side constraints to structural diversification. Policy interventions of the industrial type, which could be used to alter countries' patterns of specialization on a sector level, should first be analysed before turning the focus of attention to microeconomic policy, which can influence technological development and equipment investment as well as the accumulation of human capital. Another important idea which emerged from theoretical consideration and the analysis above is that technology and human capital are key engines for growth and structural diversification. Therefore, AFT flows could really impact positively on growth and ultimately contribute to economic transformation. There is no doubt that investment in technology and human capital is associated with positive external effects on production possibilities.

Endnotes

1. See: http://www.wto.org/english/tratop_e/devel_e/a4t_e/implementing_par57_e.htm
2. See: <http://www.prweb.com/releases/2013/5/prweb10695846.htm>
3. See: <http://www.intracen.org/projects/enact/>
4. See: <http://www.intracen.org/layouts/three-column.aspx?pageid=49080&id=72709>
5. The selected MENA region countries referred to in Figures 3-6 are Algeria, the Kingdom of Bahrain, Djibouti, Egypt, Iraq, Jordan, the Lebanese Republic, Libya, Morocco, Mauritania, Oman, Palestine, Qatar, the Kingdom of Saudi Arabia, Somalia, Sudan, the Syrian Arab Republic, Tunisia, the United Arab Emirates and Yemen.
6. See: <http://www.weforum.org/issues/global-competitiveness>
7. Based on trade data available from the Central Bank of Jordan (<http://www.cbj.gov.jo/>)

Bibliography

Diop, N., D. Marotta and J. de Melo (Eds.) (2012), *Natural resource abundance, growth, and diversification in the Middle East and North Africa: The effects of natural resources and the role of policies*, Washington, DC, World Bank.

Hoeffler, A. and V. Outram (2011), "Need, merit, or self-interest – what determines the allocation of aid?", *Review of Development Economics* 15(2), 237-250.

Hühne, P., B. Meyer and P. Nunnenkamp (2013), *Who benefits from aid for trade? Comparing the effects on recipient versus donor exports*, Kiel, Kiel Institute for the World Economy, Working Paper 1852.

Muhtaseb, B. (2013), *The Jordanian export performance in perspective: A constant market share analysis*, WCP research paper.

Petterson, J. and L. Johansson (2013), "Aid, aid for trade, and bilateral trade: An empirical study", *Journal of International Trade and Economic Development* 22(6), 866-894.

Spetan, K. A. A. and N. Saqfalhait (2013), "Exports diversification and economic growth: Case of Jordan and other selected ARAB countries", *International Research Journal of Finance and Economics* 105: 22-37.

United Nations Development Programme (UNDP) (2013), *Human development report 2013: The rise of the south: Human progress in a diverse world*, New York, UNDP.

Wooldridge, J. M. (2009), *Introductory econometrics: A modern approach*, Mason, OH, Cengage Learning, 4th ed.

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