



The FORTNIGHTLY

A Review of Middle East Regional Economic & Cultural News & Developments

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Written & Edited by Seth J. Vogelmann*

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1. ISRAEL GOVERNMENT ACTIONS & STATEMENTS

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1.1. National Emergency Government Agreement Signed

On 20 April, Prime Minister Benjamin Netanyahu and Blue & White chairman Benny Gantz signed a deal to form a "national emergency government" under which Netanyahu remains in his position as prime

minister. Israel has spent more than a year under a caretaker government as neither Netanyahu, who heads the right-wing Likud party, nor Gantz of the center Blue and White could assemble a coalition government. With the agreement, the country avoids a fourth national election in less than a year and a half.

Following meetings on 20 April, Likud and Blue & White released a brief statement saying that an agreement for the establishment of a national emergency government had been signed. The parties later released a joint statement with some details including that Netanyahu would remain as prime minister and Gantz would be prime minister-designate and deputy prime minister.

Netanyahu will serve as prime minister for the next year and a half and then be succeeded by Gantz in October 2021, according to the joint statement from the parties. If Netanyahu dissolves the parliament, Gantz will still serve as prime minister for six months before new elections. The remnants of the Labor Party are expected to join the government, with other parties demurring before making a decision to in.

The Likud, which narrowly won the last elections in March, will hold the portfolios for the Internal Security, Health, Education, Interior, Transportation, Housing, Energy and Finance ministries and will appoint a new ambassador to the United Nations. Blue & White will be in charge of the Defense, Justice, Foreign, Media, Sport and Culture, Economy and Welfare ministries, with Gantz reportedly to take the position of defense minister.

On 26 April, at a party conference held virtually because of the novel coronavirus pandemic, 64.2% of nearly 3,500 voting Labor delegates endorsed the alliance between Prime Minister Netanyahu and his centrist election rival Gantz. Labor had backed Gantz's efforts to form a government following Israel's three inconclusive elections over the past year. Labor won only three out of 120 parliamentary seats in the country's 2 March elections. In joining the prospective coalition, Labor party leader Peretz is expected to be named economy minister, while another party official is likely to be named social affairs minister. Labor's endorsement offers a boost to the coalition government, which is likely to be finalized and sworn in over the coming days. (Various 26.04)

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1.2. Israel Upgrades Empty Roads & Rails During Corona Pandemic

Roadwork is booming in Israel as construction crews take advantage of empty roads and railways in the time of coronavirus to upgrade the developed world's most congested highways. The government of Israel has injected over NIS 1 billion (\$280 million) into the impromptu campaign and for nearly two months companies have been actively at work while the rest of the country is under confinement. One recruitment campaign is referred to as "Opportunity in the Crisis." The push to finish projects quickly should have an immense, long-term impact on the economy.

Traffic density in Israel is three times the average among the 36 industrialized countries of the OECD. Commuters lose on average an hour a day in traffic congestion, a hit to productivity that costs about \$5 billion a year. Since increasingly stringent coronavirus restrictions began in February, traffic has dropped about 85%, according to Israel's national roads company. On the eve of the Passover holiday, one of the busiest times of the year, Israel was under lockdown and traffic was just 1% of the usual level. Some of the biggest and most crucial projects, like the final stretch of a new fast train between Tel Aviv and Jerusalem or the expansion of a highway in central Israel, will be finished six months to a year ahead of schedule because building was accelerated. A main street where part of Tel Aviv's new subway is being built will be closed for 10 days rather than five weeks. (Israel Hayom 24.04)

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1.3. Jerusalem Approves \$2 Billion Bailout for Small Businesses & Self-Employed

The government of Israel on 24 April approved a NIS 8 billion (\$2.3 billion) bailout plan for small businesses and self-employed Israelis, whose livelihood has been severely compromised by the lockdown measures imposed in an effort to curb the spread of the coronavirus.

The Israeli economy has been hard hit by a lockdown. Initial restrictions reduced economic activity to 30%, forcing some of the public sector and most of the private sector and to pause operations. Over a million Israelis have been placed on unpaid leave or fired, causing unemployment to jump from 4% in pre-pandemic days to over 26%.

Last month the Finance Ministry announced it will put NIS 80 billion (\$22 billion) into the economy to help it weather the coronavirus crisis, but the measure earned criticism for excluding most small businesses and the self-employed public. This measure seek to rectify that oversight.

The plan includes a grant of up to NIS 400,000 (\$114,000) per business, depending on how crippled its operations have become over the past month, the Finance Ministry said. It also includes a second stipend for self-employed Israel, up to 70% of their regular income with a maximum of NIS 10,500 (\$3,000). Applications can be made via the Tax Authority's website from the first week of May. Finance Ministry data shows that over 600,000 self-employed Israelis will be eligible for the special payment. (Various 24.04)

2. ISRAEL MARKET & BUSINESS NEWS

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2.1. Bridgecrew Raises \$18 Million to Help Developers Protect Their Cloud Infrastructure

Bridgecrew emerged from stealth mode by launching its Codified Cloud Security platform and announcing new funding. Its new, \$14 million Series A round was led by global investment firm Battery Ventures with participation from NFX, who led Bridgecrew's \$4 million seed round. Series A investors also include Sorensen Ventures, DNX Ventures, Tectonic Ventures and Homeward Ventures. In addition, a number of strategic investors and cloud-security luminaries joined the Series A round. The new funds will be used to aggressively scale Bridgecrew's novel solution, which enables DevSecOps engineers to quickly and seamlessly secure cloud infrastructure and conduct remediation delivered as code. This comes only one year after the company was founded.

Bridgecrew's developer-first solution allows DevOps and engineering teams to save critical time and money as they address these ongoing security tasks with just the click of a button. The automated technology is also well-suited for the age of COVID-19 and today's volatile market environment in which many organizations are trying to automate security and DevOps processes to cut costs and become significantly more efficient.

[Bridgecrew](#) develops and delivers security as code so that anyone can deploy the defenses needed to protect their cloud infrastructure. The company is based in San Francisco and is backed by numerous world-leading cloud experts and security luminaries. The company was founded in 2019 and is backed by top tier VCs including Battery Ventures, NFX and Sorensen Ventures. Its R&D is in Tel Aviv, Israel. (Bridgecrew 16.04)

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2.2. Autofleet Secures \$7.5 Million for Its Vehicle-as-a-Service Platform

Autofleet announced a capital raise totaling \$7.5 million from a combination of Series A and seed financing. The Series A was led by MizMaa Ventures with participation from mobility-focused investors Maniv Mobility, Next Gear Ventures and Liil Ventures. The seed financing was led by Maniv Mobility.

Autofleet offers fleet owners and operators the tools to thrive and innovate in the new mobility landscape by automating fleet management for organizations including rental car companies, car sharing operators

and car manufacturers to optimize existing business models and enable the launch of new mobility services. Autofleet has already partnered with global fleets and manufacturers such as Avis Budget Group, Zipcar, Keolis and Suzuki.

Autofleet's platform transforms the vehicle into an elastic asset so that vehicles and rides can be spun up using an API. The platform leverages AI-based demand prediction and advanced rebalancing algorithms to centrally manage the fleet, breaking the dependence on manual and local decision making processes. By minimizing downtime and allowing for algorithmic dispatch of vehicles, the platform is designed to achieve more sustainable and profitable utilization of traditional fleet assets. Autofleet also provides a Ride & Vehicle simulator to enable operators to accurately plan and de-risk potential fleet deployments without needing a single vehicle on the road. The funds will fuel Autofleet's expansion into more international markets, help grow its research and development team, and accelerate its work to create new opportunities for utilizing vehicle fleets.

Tel Aviv's [Autofleet](#) provides the leading Vehicle-as-a-Service platform for fleets to optimize existing operations and to seamlessly launch new business models from existing assets. The platform leverages advanced machine-learning algorithms for demand prediction, optimized placement and matching, automated pit-stop management and in/de-fleeting, and more. (Autofleet 16.04)

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2.3. Hellman & Friedman Completes Acquisition of Checkmarx

Checkmarx, the global leader in software security solutions for DevOps, announced that Hellman & Friedman (H&F) completed the acquisition of Checkmarx from Insight Partners in an all cash transaction valued at \$1.15 billion. TPG has partnered with H&F and will hold a minority interest in the Company together with Insight Partners. TPG has invested in a number of high-growth cybersecurity businesses and will bring additional expertise to the Company as it continues its rapid pace of growth. The deal represents the largest acquisition of an application security company to date.

Checkmarx enables organizations to deliver secure software faster by making security excellence intrinsic to software development. The Checkmarx Software Security Platform identifies and remediates vulnerabilities in software during development and leads the industry in facilitating automated security scanning as part of the DevOps process. With the transaction complete, Checkmarx will continue to scale the business, and deliver innovative products and unparalleled service to its global customers.

Ramat Gan's [Checkmarx](#) is the global leader in software security solutions for modern enterprise software development. Checkmarx delivers the industry's most comprehensive Software Security Platform that unifies with DevOps and provides static and interactive application security testing, software composition analysis and developer AppSec awareness and training programs to reduce and remediate risk from software vulnerabilities. (Checkmarx 16.04)

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2.4. Biohaven Partners with Medison Pharma to Distribute NURTEC ODT in Israel

New Haven, Connecticut's Biohaven Pharmaceutical Holding Company and Medison Pharma, Israel's leading partner for innovative pharmaceuticals, announced an agreement to distribute NURTEC ODT (rimegepant) in Israel. NURTEC ODT is the first and only calcitonin gene-related peptide (CGRP) receptor antagonist available in a fast-acting orally disintegrating tablet (ODT) approved for the acute treatment of migraine. The agreement between Biohaven and Medison includes NURTEC ODT, approved in the USA in February 2020 for the acute treatment of migraine.

Petah Tikva's [Medison](#) is one of the world's largest commercial partners of leading global biotech companies, providing the complete spectrum of integrated services for international companies looking to enter or expand their presence in Israel, Canada and CEE markets. Medison operates a corporate venture

arm with a dedicated research and evaluation team boasting deep scientific and commercial backgrounds. Medison also operates a scouting program to cater its partners and is an active investor in life science projects around drug development and digital health. (Biohaven 16.04)

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2.5. Elbit Awarded \$15 Million Contract for the Swiss Armed Forces

Elbit Systems was awarded a contract valued at approximately \$15 million from the Swiss Federal Office for Defense Procurement (Armasuisse) to provide Command and Control (C2) systems for the Tactical Reconnaissance System (TASYS) of the Swiss Armed Forces. The contract will be performed over a three-year period. Under the contract Elbit will provide the reconnaissance battalions and forward observers of the Swiss Army with C2 systems that improve target acquisition, prioritizing and data dissemination capabilities and will enable the generation of a common operational picture, thereby facilitating rapid decision making and effective engagement.

Haifa's [Elbit Systems](#) is an international high technology company engaged in a wide range of defense, homeland security and commercial programs throughout the world. The Company, which includes Elbit Systems and its subsidiaries, operates in the areas of aerospace, land, and naval systems, command, control, communications, computers, intelligence surveillance and reconnaissance (C4ISR), unmanned aircraft systems, advanced electro-optics, electro-optic space systems, EW suites, signal intelligence systems, data links and communications systems, radios and cyber-based systems and munitions. (Elbit Systems 16.04)

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2.6. March Food Sales in Israel Reach an All-Time High

March 2020 was an all-time record month for food sales in Israel, which totaled NIS 4.36 billion, NIS 1.2 billion more than in March 2019, according to figures from StoreNext obtained by Globes. Sales of fast moving consumer goods (FMCG), including toiletries and cleaning products, totaled the huge sum of NIS 5.4 billion in March this year, which compares with FMCG sales of NIS 47.3 billion for the whole of 2019. In other words, FMCG sales in March 2020 alone were about one ninth of sales of all of last year.

The figures reflect the situation in which Israelis spent the Passover festival in lockdown, with no overseas trips, so hotel stays, and with restaurants and bars shut. StoreNext's figures do not include sales channels that have been gaining momentum recently, such as online supermarkets and direct sales by farmers. In 2020 as in 2019, the Passover holiday fell in April, but this year it was near the beginning of the month, so that people were making Passover purchases towards the end of March. Food and beverage purchases in March amounted to over NIS 470 per person in Israel. Purchases for the first quarter were up 14.3% at NIS 10.6 billion.

Tnuva had sales of NIS 584 million in March, up 30% on March 2019. Tnuva's first quarter sales were up 10.2%. Strauss Israel saw similar growth in March sales, of 31%, to NIS 509 million. Strauss's first quarter sales were up 14.4%. Osem posted even higher growth in March, with sales up 41% in comparison with March 2019, at NIS 395 million. Neto recorded the most impressive growth in March, according to StoreNext. Excluding fresh fish and meat, Neto's sales were up 52% at NIS 179 million, making it the fifth largest food supplier in the Israeli market. Including fresh fish and meat sales of NIS 93 million, Neto's March sales were up 55%, at NIS 272 million, giving it a market share, according to StoreNext, of 6.1%, which compares with 5.6% for The Central Bottling Company. Unilever's sales for March were up 26.4% at NIS 108 million. Food importers Diplomat and Schestowitz saw March sales up 37% and 48% respectively. (Globes 16.04)

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2.7. Autofleet Raises \$7.5 Million to Help Fleets Put Idle Vehicles into Drive

Tel Aviv's [Autofleet](#), a startup that develops fleet optimization software to redirect underused vehicles into ride-hailing and delivery services, has raised \$7.5 million in seed and Series A funding to expand into international markets and grow its research and development team. The Series A was led by MizMaa Ventures, with participation from Maniv Mobility, Next Gear Ventures and Liil Ventures. Its seed financing was led by Maniv Mobility.

Autofleet developed a fleet management platform that can be used by rental car companies, car sharing operators and automakers to launch or better manage mobility services. The platform includes a booking app and integrations to delivery services, demand prediction, pooling and optimization algorithms as well as a driver app, and control center. The company also has developed a simulator tool that lets operators plan how a fleet will be deployed before a single vehicle hits the road.

For example, a rental company with abundant inventory and little demand for traditional multi-day contracts could use the platform to launch and then manage a car-sharing service. Autofleet already has partnerships with Avis Budget Group, Zipcar, Keolis and Suzuki. That focus on managing supply side constraints is what attracted Maniv Mobility to invest in the seed and Series A rounds.

In this age of COVID-19 — when asset-heavy businesses like rental car companies have seen their businesses upended — Autofleet has already discovered new uses for its platform. The platform is being used to help companies shift fleets to meet today's demand for logistics and medical transportation. Autofleet is also selling its platform to companies looking to leverage their vehicle assets for their delivery services. Autofleet provides Fleet Managers with a platform to supply their underutilized vehicles as an on-demand service to any source of demand including ride-hailing companies. (Autofleet 17.04)

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2.8. Anodot Raises \$35 Million to Help Monitor Business Operations

Anodot announced a \$35 million Series C investment. Intel Capital led this round with a lot of help. New investors SoftBank Ventures Asia, Samsung NEXT and La Maison also participated along with existing investors Disruptive Technologies L.P., Aleph Venture Capital and Redline Capital. This investment brings the total raised to \$62.5 million, according to the company.

Ra'anana's [Anodot](#) illuminates business blind spots with AI-powered analytics, so you will never miss another revenue leak or brand-damaging incident. Its automated machine learning algorithms continuously analyze all your business data, detect the business incidents that matter, and identify why they are happening by correlating across multiple data sources. Anodot customers in fintech, ad-tech, web & mobile apps, and other data-heavy industries use Anodot to drive real business benefits like significant cost savings, increased revenue and upturn in customer satisfaction. (Anodot 16.04)

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2.9. Rapyd Acquires Iceland's Korta Paytech

Rapyd is to acquire Iceland-based payment card service provider Korta. There are no financial details, but the firm says the deal gives it online acquiring and point-of-sale (POS) capabilities.

Korta is a fully licensed European merchant acquirer and “principal member” of Visa and MasterCard. Korta was founded in 2002 and is based in Reykjavik. It has 51 employees according to LinkedIn. There is no word on any job cuts as part of the acquisition.

Tel Aviv's [Rapyd](#) helps merchants, gig-economy platforms, and technology providers create and launch fintech or commerce applications powered via its cloud-based platform. Founded in 2016, Rapyd has over 200 employees globally with operations in Europe, the Middle East, Asia, and the Americas. In October 2019, it raised a \$100 million Series C financing putting the company's valuation at over \$1 billion. Investors

include Stripe, General Catalyst, Oak FT, Tiger Global, Durable Capital, Target Global and Tal Capital. Last March, Rapyd launched an all-in-one solution for Brazil's payments ecosystem. (Rapyd 19.04)

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2.10. Granulate Secures \$12 Million in Series A Funding

Granulate, which optimizes infrastructure and workload performance in real-time and allows businesses to cut compute costs and increase revenue, has raised \$12 million in Series A funding. The round was led by Insight Partners, one of the largest global funds focused on investing in ScaleUp software companies, with participation from TLV Partners and Hetz Ventures.

The Series A round brings total capital raised to date to \$15.6 million. This new capital will support Granulate's growth and global expansion, with the goal of helping more businesses around the world achieve optimized infrastructure performance and efficiency. The investment will also be used to triple the company's workforce and expand all departments from research and development (R&D) to sales and marketing.

Granulate's unique patent-pending solution simultaneously improves performance and reduces costs without requiring any changes in the customer's code. Most businesses use generic operating systems (OS) that are not optimized to the particular workload a business runs on it. Granulate's real-time optimization solution performs ongoing adaptations to continuously tailor and streamline the application data-flow to fit each specific business' needs. Through this, organizations can handle compute workloads with 60% less compute resources while significantly improving performance, with no code changes required. Granulate can be quickly installed on any Linux server and any infrastructure type (data-centers, multi or hybrid-cloud) and any environment (Bare-Metal, VMs, Kubernetes and Dockers) without customer's R&D efforts.

Tel Aviv's [Granulate](#) is a real-time continuous optimization company that delivers reduced compute costs, faster response time and better throughput, without any code changes required. Unlike existing products, Granulate's patent-pending next-generation solution provides agnostic deep infrastructure and workload optimization for robust performance and cost improvements.) Granulate (22.04)

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2.11. My Size & Logystico to Operate Micro-Fulfilment Centers Utilizing BoxSize Platform

My Size has entered into a non-binding letter of intent (LOI) with New Jersey's Logystico, a third party logistics fulfillment company that specializes in automating the order fulfillment process, to form a joint venture (JV). Under the terms of the LOI, the JV will exclusively operate and manage micro-fulfilment centers using My Size's BoxSize platform for retail vendors in the United States. My Size will have a 68% stake and Logystico will have a 32% stake in the JV Entity. Establishment of the JV is subject to the entry into a definitive binding agreement.

BoxSize is an intuitive parcel measurement app that can provide real-time logistic data on packages volumes and transportation, which is designed to improve operational efficiency and reduce operating expenses. BoxSize streamlines delivery management through highly accurate parcel measurement and cost calculation, real time dimensional weight (DIM) details for improved logistics, and integration with enterprise resource planning (ERP) systems through barcode scan, image capture, and geo-location tagging. Individual consumers can also utilize BoxSize to measure the volume of a package they intend to mail – receiving a price quote and the ability to schedule a pick-up.

Airport City's [My Size](#) has developed a unique measurement technology based on sophisticated algorithms and cutting-edge technology with broad applications including the apparel, e-commerce, DIY, shipping and parcel delivery industries. This proprietary measurement technology is driven by several algorithms which are able to calculate and record measurements in a variety of novel ways. (MySize 22.04)

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2.12. Ballard Partners Opening an Office in Tel Aviv

Ballard Partners, one of the leading lobbying firms in the United States, is opening an office in Tel Aviv to assist clients with government relations in Israel, as well as assisting Israeli companies needing representation in the United States.

[Ballard Partners](#) has been named by state and national publications as the leading government affairs firm in the Sunshine State. The Florida-based firm, with offices in Washington, D.C., Tel Aviv, Tallahassee, Jacksonville, West Palm Beach, Miami, Ft. Lauderdale, Orlando and Tampa, combines extensive experience in government affairs with unwavering advocacy to maximize results for the clients they serve. (Ballard Partners 27.04)

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2.13. Israeli Air Quality Control Startup Urecsys Raises Additional \$3 Million

Urecsys Urban Ecology Systems Indoor Air Quality Management has raised an additional \$3 million, bringing its recently announced round to \$7 million, the company announced. The round was led by Tel Aviv-based venture capital firm iAngels Crowd Ltd. and participated by existing investors MYN Investments and Kobi and Judith Richter, founders of automated inspection company Orbotech.

The company raised the additional \$3 million since March due to increased demand for air treatment technologies related to the spread of the coronavirus (COVID-19) pandemic, according to the company's statement. The company claims tests have shown that its solution can help minimize exposure to urban pollution by 50% and highlights research indicating a correlation between reduced levels of exposure to pollution and other air quality factors and lower coronavirus contagion levels.

Founded in 2014, Jerusalem's [Urecsys](#) develops air treatment technologies for optimizing air quality within residential and commercial buildings. The technology blocks out gaseous pollutants and ultra-fine particles, to prevent pollution from the urban environment from entering buildings, according to company statements. (Urecsys 14.04)

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2.14. Fox to Reopen 300 Stores

After the government approved a NIS 6 billion support package for retail businesses that closed during the coronavirus crisis, fashion chain Fox-Wizel announced on 27 April that it is recalling thousands of employees back from unpaid leave. Fox has led the fight for government compensation for all retail and commercial chains. Fox said that it is reopening about 300 stores on streets and in power centers. The fashion retail chain said that operations began this morning to bring in new summer collections and arrange store displays. Fox said that all the stores brands will be open by 30 April. (Globes 27.04)

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3.1. Analysis of Jordan's Telecoms, Mobile and Broadband Sectors

The Jordan - Telecoms, Mobile and Broadband - Statistics and Analyses" report has been added to [ResearchAndMarkets.com](#)'s offering. The publisher notes that the outbreak of the Coronavirus (COVID-19) in 2020 is having a significant impact on production and supply chains all around the world. During this time, the telecoms sector may experience a downturn in mobile device and ICT equipment production and

a decline in consumer spending on telecoms services. Overall progress towards 5G may also be postponed or slowed down in some countries.

Jordan is a unique market in many ways, due to its huge population growth in the last decade and the influx of refugees into the country. Jordan has long been recognized for having a highly taxed telecom sector. MVNOs have struggled in Jordan's competitive mobile market, which is dominated by 3 major regional players. The uptake of 4G grew quickly in Jordan and by 2019 penetration had reached over 90%. Umniah and JEPKO partnered together in 2019 to deploy a fiber-broadband network.

Jordan is host to a growing number of ICT companies and has emerged as a technology start up hub for the Middle East, made possible due to a focus on ICT education and a regulatory environment which is conducive to ICT investment. It has also made great progress in the digital financial services area with support from the Central Bank of Jordan. To support further digital development; the government recently launched a Ministry of Digital Economy and Entrepreneurship.

High-speed, reliable and comprehensive telecoms infrastructure is important for underpinning Jordan's digital economy goals. Jordan already has a highly developed mobile sector which is led by three major regional players, and it is well supported by 4G LTE networks. The launch of 4G services led to a growth in data revenues for the mobile operators and they are continuing to expand on these data offerings as a key focus area moving forward. The industry is also preparing itself for the next wave of developments relating to 5G and IoT/M2M.

Jordan is working towards improving its fixed broadband infrastructure, as its current penetration levels are still comparatively low. A national broadband network based on fiber is being deployed, however the majority of subscribers still utilize DSL services. (ResearchAndMarkets 23.04)

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3.2. Baims Raises Seed Funding to Make Educational Content for Students Accessible

Kuwait based EdTech startup Baims has closed a seed round, led by Al-Wazzan Education and joined by Seeds partners and several angel investors. Baims, short for Big Aims, sought to be the first to digitize the offline tutoring experience, making educational content accessible anywhere, anytime, with unlimited access to students during their term. With a 70% discount on the usual price tag of a normal tutoring hour, the Ed- Tech startup broke even within 24 hours.

With an initial focus on engineering courses, Baims began by tailor fitting high-quality tutoring courses based on the university curriculum. Baims Instructors consist of top tier professors, engineers and tutors. As of 2020, the start-up has expanded its scope to include multiple colleges and universities in Kuwait and Riyadh and has also added very well received courses for high school students. The platform offers a revenue-sharing model with its instructors, who provide content tailored to each subject's curriculum by recorded courses, notes and quizzes. Baims is available on web, iOS & Android, making teaching accessible on all devices. As of 2020, Baims has created more than 1000+ recorded courses, 30,000+ lectures. Reaching more than 450,000+ course enrollments.

Kuwait's [Baims](#) was founded in February 2017 by engineering students at Kuwait University. Starting with the College of Engineering, the company sought to be the first to digitize the offline tutoring experience, making educational content accessible anywhere, anytime, with unlimited access to students during their term. With a 70% discount on the usual price tag of a normal tutoring hour, the Ed- Tech startup broke even within 24 hours. (Baims 15.04)

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3.3. Aaxed Labs Announces \$272,000 Launchpad for Startups & SMEs

Dubai's [Axeed Labs](#), the UAE-based mobile application and software development firm, has launched its Dh1 million (\$272,000) SME and Startup Tech Launchpad campaign. The activation comes as a response to the global Covid-19 linked economic crisis and ahead of Ramadan 2020. This campaign creates an opportunity for UAE startups and SMEs to continue their technology development, with a Dh1 million credit line and enables Axeed Labs to support the business community.

The SME sector represents more than 94% of the total number of companies operating in the UAE and provides jobs for more than 86% of the private sector's workforce. In Dubai alone, SMEs employ 42% of the workforce and contribute around 40% to Dubai's GDP. The UAE Government has an ambition to enhance the contribution and performance of the SME sector and Axeed Labs is taking this opportunity to follow suit, it said.

The campaign will take place entirely online, using Axeed Labs landing page. SMEs and start-ups can submit key points of information and successful applicants will be contacted to go to the next stage of the process. The applicants should have a B2B or B2C tech product; the product requires imminent development or maintenance; and the company should have been in business for at least six months.

All applicants can apply for credit lines of up to Dh 1 million with flexible payment plans, allowing companies to remain mobile, versatile and move forward during these challenging times. In addition, Axeed Labs has opened its doors to investment opportunities, enabling tech start-ups to retain their pace of development. (Axeed Labs 22.04)

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3.4. New Dubai Based B2B eMarketplace Goes Live

[Tradeling](#), a new digital marketplace focused on B2B transactions in the Arabian Gulf region, is now live and is providing companies with incentives to join amid the coronavirus pandemic. The platform was created – from idea to reality – through Dubai Blink, which was announced last year by the Dubai Airport Freezone Authority (DAFZA) as part of the Dubai 10X initiative. The company has already received the endorsement of the Dubai Free Zones Council.

Through the end of the year, suppliers and Arabian Gulf based buyers can register on the platform free of charge, with no commission. Additionally, the platform is allowing companies to order boxes of sanitizers and other supplies amid the Covid-19 pandemic. Although still in its beta stage, Tradeling has a strong focus on the F&B sector as a core vertical, as well as officer supplies. More categories will be added in the future. The company also plans to expand to Saudi Arabia and other regional markets. (Tradeling 22.04)

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3.5. Faith Capital Invests in eGift Card Company YouGotaGift

Kuwait's Faith Capital announced their recent participation in the secondary share offering in YouGotaGift, the Middle East's leading eGift Card distribution company. Faith Capital aims to support in their further scale across the GCC. Faith Capital Holding is a Kuwaiti Venture Capital firm specializing in technology companies.

Launched in 2012, turned profitable in 2018, Dubai's [YouGotaGift](#) is a digital Gift Card platform offering an unparalleled choice of top regional brands (400+) delivered instantly by Email, SMS & App. Individuals and businesses use their web and mobile applications to buy and distribute eGift Cards to family, friends, employees, and customers. Operating across three major business verticals including Consumer Gifting, Employee and Customer Rewards, integration with loyal programs, their end-to-end digital solution serves as a one-stop-shop, connecting major brands like Noon, Carrefour, Lulu, Centrepoint, Jarir, Saco, Al Dawaa Pharmacies, Careem, iTunes to major corporate clients including banks, telecommunications, government and private enterprises in the GCC and beyond. (Faith Capital 26.04)

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3.6. Hubpay Announces its Seed Round

Hubpay announced its seed funding round, led by a leading US venture capital firm - Signal Peak Ventures. The investment raised will support the launch of Hubpay's digital wallet in the Middle East market. Additionally, a UAE angel investment group – the Falcon Network, is participating in Hubpay's Seed round. Falcon Network has backed a number of high impact businesses in the region. Hubpay is in the advanced stages of the licensing process to receive a Money Services License in the United Arab Emirates market, enabling low cost digital remittances and international bill payment.

The UAE is the third largest market for remittances globally, with \$44 billion of payments made last year. The regional market is vast, with Gulf countries remittances exceeding those of the USA, and the majority of these flows going to the fastest growing mobile money markets in the world; India, Pakistan, Philippines, Bangladesh and Indonesia. The remittance channels provide a direct route to the \$3 trillion digital wallet market across Asia.

Dubai's [Hubpay](#) will address both the remittance market and the mobile money market by launching a digital wallet for both the senders and receivers. As part of Hubpay's international strategy, Hubpay has been welcomed onto the Visa Fast Track program, enabling them to leverage Visa's payment infrastructure and further scale the business. (Hubpay 22.04)

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3.7. During Coronavirus UAE Searches for Online Groceries Spikes by 560%

Searches related to 'online grocery' in the UAE spiked 560% between January and March 2020 as a result of the Covid-19 pandemic, according to new research from digital marketing platform SEMrush. According to the statistics, searches for 'online pharmacy' rose 238%, while 'pharmacy delivery' searches went up 184%. The various delivery aggregators and consumer goods providers also saw steady increases in search volumes. Zomato, for example, saw a 55% increase during the same time period, while searches for Uber Eats and Amazon rose 96 and 44%, respectively. Collectively, food sites saw a 33% increase in search volumes, with big winners such as Dominos and Subway seeing increases of 40 and 61%, respectively. The World Economic Forum has estimated the UAE's 2020 e-commerce market to be valued at \$27.2 billion. (Various 22.04)

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3.8. Taker Raises Six-Figure Seed Funding for Investment in R&D to Adapt to New Trends

[Taker](#), the Saudi-based Software as a Service (SaaS) startup that provides an online ordering management platform for restaurants, has announced today, that the company has raised an undisclosed amount of seed funding. The investment round was led by 500 Startups, Saudi Venture Capital (SVC) and a group of leading angel investors. The newly raised funds will be deployed to invest in research and development to adapt to the new trends in the market and further augment its proprietary technology platform.

Founded in January 2019, Taker is at the forefront of revolutionizing the online Food & Beverage (F&B) industry, a category that is rapidly developing and is worth billions of dollars globally. It is the most advanced management platform for restaurants of any size who want to open their online branch and scale customer orders. The company is unique as its service takes care of all of the problems involved in developing a website and/or building an app to order food online. Restaurants that sign up with Taker can get their own branded ordering channels, almost instantly.

Furthermore, Taker also integrates its system with the restaurant POS systems and payment gateways and additional add-on services. These significant features play a major role to improve efficiency and streamline their internal operations inside the kitchen and manage the increased volume of orders. (Taker 23.04)

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3.9. Egypt's Disruptech Makes its First Two Investments in Khazna and Brimore

Disruptech, the recently established Egypt focused \$25 million fintech fund, has made its first two investments. The investments have been made in Khazna & Brimore. The firm did not disclose the exact size of investments but has told MENAbytes that each one of them is over \$1 Million.

[Khazna](#) is a mobile financial services platform aiming to serve over 20 million unbanked Egyptians who are active smartphone users with limited access to formal financial services. The company's first product is Khazna HR, a salary cash advance app that allows employers to offer a cash advance to their employees as a benefit, helping them to cover unforeseen emergencies. Khazna has already signed with a number of corporations with over 70,000 employees.

Cairo's [Brimore](#), founded in 2017, allows manufacturers/suppliers to have nationwide coverage through a network of individual sales, an impact driven enterprise that built a distribution technology platform that enables local agents selling products directly to consumers in their circles using Mobile apps and other channels. Brimore closed 2019 with 10x YoY growth and is now approaching \$500,000 monthly GMV. Brimore has received investments from Algebra Ventures, 500 Startups, Endure Capital and Flat 6Labs. (Disruptech 20.04)

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3.10. Egypt's Mumm Closes Pre-Series A Investment from Alex Angels

Egyptian FoodTech startup Mumm has just closed a Pre-Series A Bridge Round from Alex Angels. The startup, founded by Waleed Abd El Rahman in 2015, is an online marketplace that delivers homemade food to individual customers as well as businesses.

Initially launched as an online marketplace for customers to access nutritious and affordable homemade food conveniently, Mumm has grown to become a virtual cafeteria for corporate and SMEs offices, delivering company orders in bulk, thus saving money for employees, and removing the operational hassle of having to provide food for the company. The startup had previously raised a seed investment in 2016 from Egyptian VC A15, and later in 2017 closed a \$200,000 round from 500 Startups, as part of 500 Startups' Series A Program accelerator Doha Dojo in Qatar. The startup was also recognized by the World Economic Forum as one of 100 startups disrupting the Middle East.

Cairo's [Mumm](#) is an online platform connecting talented homebased cooks with hungry professionals to give them access to wholesome fresh homemade food, from the home chef's kitchen. (FoodTech 26.04)

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3.11. Morocco 2020 Mobile Infrastructure, Operators and Broadband Sectors

The "Morocco - Mobile Infrastructure, Operators and Broadband - Statistics and Analyses" report has been added to ResearchAndMarkets.com's offering. Morocco's MNP process was amended to make number portings automated. Inwi launched Morocco's first m-payment service while Orange Maroc launched Orange Money. At the same time, Inwi and Maroc Telecom began trial deployment of 5G technologies;

Morocco's mobile market is one of the more mature in the region, with a penetration rate of about 125%. All three mobile network operators offer fixed-line or fixed-wireless services and have developed mobile data services based on the extensive reach of LTE infrastructure. Growth in mobile data traffic is supported by the popular use of smartphones, which account for about 80% of all mobile phones in use.

The mobile operators are the main providers of internet services, accounting for the great majority of all internet connections. The issuing of LTE licenses in 2015 included conditions to ensure that services covered at least 65% of the population by 2020, while the promotion of broadband accessibility nationally is also supported by the National Broadband Plan through to 2022 and by the Maroc Digital 2020 strategy. The extensive deployment of mobile broadband infrastructure will further consolidate the dominance of mobile players in the broadband sector in coming years.

The incumbent telco Maroc Telecom has undergone a strategic review following its acquisition of Etisalat's mobile businesses in several markets in the region. These additional international markets, including Chad in mid-2019, are providing a welcome boost to the company's overall revenue. (R&M 23.04)

4. CLEAN TECH & ENVIRONMENTAL DEVELOPMENTS

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4.1. Air Pollution Plummets in Israel During Coronavirus Outbreak

Air pollution throughout Israel has plummeted since the coronavirus outbreak began, with pollution in the Dan region where Tel Aviv is located dropping 40% in general and 50% at train stations, according to the Ministry for Environmental Protection. The Ministry checked the concentration of nitrogen dioxide with the European Space Agency's Copernicus Sentinel-5 Precursor satellite. The monitoring stations of the National Air Monitoring Network also detected about a 40% fall in nitrogen dioxide concentrations recently compared to the average. Pollution even fell noticeable in less inhabited and busy areas such as the Golan Heights, the Galilee and the Negev. (JP 06.04)

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4.2. Bar-Ilan Development Transforms Tap Water Into a Powerful Disinfectant Against Viruses

Researchers from [Bar-Ilan University](#) have developed new methodologies to produce powerful, environmentally-friendly disinfectants, based on tap water that can eliminate bacteria and kill viruses, including microbes from the coronavirus family. The ability to turn ordinary tap water into virus-fighting materials was developed and patented in the Department of Chemistry and Institute of Nanotechnology and Advanced Materials at Bar-Ilan University.

The disinfectants are effective and safe to use and do not contaminate groundwater. The technology works through an array of nanometer-shaped electrodes with unique surface properties. The meeting between water and electrodes creates a cleaning material in a unique aquatic environment. The combination of these compounds gives rise to an effective antibacterial capability for microorganisms (bacteria, viruses and spores), while at the same time is safe for macro organisms (larger bodies such as skin cells).

The platform on which the technology is based enables the preparation of a variety of solutions for clean spaces from bacteria, such as spray-aerosols (for disinfecting surfaces, appliances, beds, closets, bathrooms, toilets, etc.), containers for immersion (washing devices, hands etc.), disinfectant wipes, hand washing, shoe washing, buckets for washing and disinfecting floors, air-conditioning systems, washing machines and dry fog air-purifiers. The ability to produce electrodes in a variety of shapes and textures makes the technology suitable to almost any application – from a 'cassette' in an air conditioner, a container for washing fish and meat, to disinfection and removal of pesticides from vegetables and fruit, mobile spray, a device for manufacturing disposable antibacterial cloths and many other applications – even masks and gloves.

The antiseptic capability is 100 times more effective than bleach and therefore low concentrations of between 50 and 200 mg of the active materials per liter are enough to disinfect (unlike bleach, which by contrast requires between 5,000 and 20,000 mg per liter). They are also much more environmentally friendly and do not cause burns or dry skin. As such they may be effective in treating wounds, a possibility being investigated. They don't cause corrosion, and most importantly, with the very low concentration of

50 mg they eliminate all kinds of viruses. In electrode-free containers, the disinfectants can remain effective for two months and may be sold in recyclable bottles. For reusable bottled products, a fairly simple process can be applied to enable long-term use. (Bar Ilan 23.04)

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4.3. UAE Wages War on Tiny Scourge Threatening Date Palms

The UAE is waging war on the weevil scourge threatening date palms, as it causes economic losses in the millions of dollars annually. In recent years, farmers have carried out targeted injection of pesticides in cooperation with Abu Dhabi authorities, who since 2013 have run a project to control the palm pests.

In the Arab world - and particularly during the holy month of Ramadan - the date is more than a fruit, it is a symbol of prosperity and hospitality, and it has played an important role in the development of nations carved out of these hot and arid regions. The date palm is under serious threat from the red weevil, the world's most dangerous and destructive palm pest, according to the FAO. The insect infiltrates the interior of the stipe - the false trunk of the palm - and produces hundreds of larvae which feed on the soft tissue inside, ultimately killing their host. The bug, which is also a pest in coconut and oil palm plantations, began infesting date palms in the Middle East two decades ago, before creeping across Africa and Europe. According to the FAO, 60% of the world's 100 million date palms are in the Arab world, which produces some 70% of date exports, with the UAE a leading exporter.

In recent years farmers have carried out targeted injection of pesticides in cooperation with Abu Dhabi authorities, who since 2013 have run a project to control the palm pests. In white overalls, with masks on their faces and gloved hands, workers carry out a delicate operation. One drills a hole inside the stipe so his colleague can thread a long, thin tube inside, while another worker takes out a large syringe and injects pesticide into the plant's core.

The Abu Dhabi Authority for Agriculture and Food Security (ADAFSA) has carried out extermination at most of the 24,000 date plantations in Abu Dhabi and the number of infested plants has decreased by 33% since 2016. But the intensive use of pesticides can pose risks to farmers, consumers and the environment. ADAFSA limits the quantity of pesticide injected because the goal is also to reduce environmental pollution. They are also developing natural pest control methods, including pheromone traps - using molecules secreted by insects to which they are drawn. (Various 28.04)

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4.4. DEWA Signs Power Purchase Agreement for Fifth Phase of Solar Park

DEWA - the Dubai Electricity and Water Authority signed a 25 year power purchase agreement with Saudi Arabia's Acwa Power for the fifth phase of the Mohammed bin Rashid Al Maktoum solar park. The 900 megawatt phase will be commissioned in stages starting from the third quarter of 2021, according to the utility.

Acwa Power submitted the lowest bid of 1.69 US cents for the fifth phase of the Sheikh Mohammed bin Rashid Solar Park in November. Dewa chose the Saudi power developer's bid from among 60 requests for qualification from international companies.

Dubai aims to generate 25% of its energy requirements from renewable sources by 2030 and 75% by 2050 as part of its clean energy drive. Dewa is building the world's largest solar energy park in the Dubai desert in an effort to reduce reliance on natural gas and diversify its power sources. The Mohammed bin Rashid Solar Park is expected to generate 5,000MW of electricity by 2030 and is estimated to drive up to Dh50 billion in investments. The fifth phase of the project is being implemented through the Shuaa Energy 3 company in which Dewa holds a 60% stake, with the remainder held by a consortium including Acwa Power and Gulf Investment Corporation.

The solar park's operational capacity has reached 1,013MW from solar photovoltaic panels. A further 1,850MW of PV and concentrated solar power capacity is under construction. The Dhafrah project, which will be built through an independent power producer model, will cover an area of 20 square kilometers and could provide electricity to 110,000 households across the UAE. (TN 29.04)

5. ARAB STATE DEVELOPMENTS

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5.1. Lebanese Parliament Reconvenes with Anti-Virus Measures in Place

On 21 April, Lebanon's parliament reconvened for the first time in over a month today, but the lawmakers were not above the law when it came to anti-coronavirus measures. The members of parliament met in a Beirut theater where they observed social distancing and were sprayed with disinfectant by medics. Laws on corruption and public funds were on the agenda and the parliament voted to allow the planting of cannabis for medical use. Lebanon hopes that the cultivation of cannabis will help improve its dire economic situation. The minister of agriculture said that the government would study how best to cultivate the plant after the passing of the bill.

Parliament stopped meeting in March as the country instituted measures to curb the transmission of COVID-19. Massive protests in Lebanon began in October against sectarianism, corruption and the country's dire economic situation. The country defaulted on its more than \$1 billion debt in March for the first time. The protests have dwindled since a curfew was put in place in March to mitigate the spread of the coronavirus. Security forces destroyed protest tents in Beirut at the time. The demonstrators stayed active, however, holding virtual meetings. The protesters returned to the streets of the capital as parliament convened, protesting in cars and waving Lebanese flags — some demonstrators wearing protective gear.

However, a day later Lebanon's parliament adjourned without voting on a much-needed economic support package worth nearly \$800 million after not enough members showed up for the afternoon session, denying the body a quorum. As a result, MPs did not vote on an aid package of 1.2 trillion Lebanese pounds that was intended to support Lebanon's long-suffering private sector as well as the country's poorest families. (Various 22.04)

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5.2. Lebanon's Gross Public Debt Rises by 8.2% to \$92.24 Billion in February

According to the data released by the Lebanon's Ministry of Finance (MoF), Lebanese gross public debt increased by an annual 8.2% to settle at \$92.24 billion in February 2020. Local currency debt (denominated in LBP) climbed by a yearly 12.96% to \$58.17B. Correspondingly, domestic debt composed 63.07% of gross public debt, up from last year's 60.83% of the total in Feb.2019. Meanwhile, total debt denominated in foreign currency recorded an uptick of 0.95% year-in-year (YOY) to amount to \$34B over the same period. In fact, the foreign debt constituted 36.9% of total gross debt, compared to 39.2% in Feb.2019. In turn, Lebanon's total net debt, excluding public sector deposits at commercial banks and the central bank, added 7.86%YOY to \$82.56B over the same period. Lebanon is struggling to deal with diminished foreign-currency reserves and double-digit inflation amid its worst financial crisis in decades. The Government is trying to overhaul about \$90 billion of debt and engage in talks with bondholders after the nation failed to honor a \$1.2B Eurobond due last month. (MOF 24.04)

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5.3. Jordan Eases Coronavirus Curfew and Reopens More Businesses

On 27 April, Jordan eased restrictions on movement aimed at containing the spread of the coronavirus and allowed more businesses to reopen to help jump-start the cash-strapped economy, officials said. Amman residents can now drive their private vehicles as of Wednesday between 08:00 and 18:00 in the first such

move since a nationwide curfew nearly 40 days ago that ordered the country's population of 10 million to stay at home. Public transport and taxi services would also now resume with passenger restrictions and compulsory wearing of face masks and gloves.

The relaxation in curbs on movement in the capital follows a similar move last week in southern Jordan, including the Red Sea port city of Aqaba. The government imposed the curfew shortly after King Abdullah enacted an emergency law that paralyzed daily life, and ordered shops and firms to close, leaving many daily wage earners struggling without pay. Minister of Trade and Industry Hammouri said barbershops, beauty parlors, drycleaners and cosmetics shops could now open in the latest string of small businesses from garments to flower shops and furniture outlets that can resume normal work.

However, government offices will remain closed until after Ramadan, which is expected to end around 23 May, as well as schools and universities. The country's airports and border crossing with its neighbors Syria, Iraq, Saudi Arabia and Israel are still closed to passenger traffic. The economy has been battered with the tourism sector, a main source of foreign currency especially hard hit due to global travel disruptions. The latest relaxation allow construction firms and many firms beyond pharmaceuticals, fertilizers and the agriculture sector that have kept operating but with lower staffing levels. (Various 27.04)

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5.4. Bahrain Announces 30% Budget Cuts and Rescheduling of Projects

Bahrain has become the latest nation in the oil-rich Gulf to announce drastic spending cuts, an effort to stretch the budget at a time the crash in oil prices and measures to combat the global pandemic decimate revenue. The Gulf country will slash operating expenses for ministries and government departments by 30%. The Bahraini cabinet also agreed to reschedule a number of construction and other projects to help meet emergency costs of preventing the spread of the virus. Other proposals approved include a regulation granting workers unpaid leave.

In March, Bahrain prepared an \$11.4 billion package to assist its private sector, mostly including measures that it said won't affect the budget deficit. Bahrain, the smallest among economies of the six Gulf Cooperation Council members, has the added protection of a \$10 billion bailout package secured from its regional allies in 2018. Still, its fiscal buffers will come under strain, with the IMF projecting the budget deficit at about 16% of gross domestic product this year. (Various 20.04)

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5.5. Over 1,600 Websites in the UAE Blocked in 2019

Over 1,600 websites in the UAE were blocked in 2019 for using offensive, racist, moral, religious, defamatory or obscene content. The number (1,688) was down from the 2,659 banned in 2018, according to the Telecommunications Regulatory Authority (TRA) of the UAE. The TRA revealed that 542 URLs were blocked for obscene content – around 32% of total sites banned throughout the year. Nearly 25.8%, or 436, of the websites blocked were used for fraud, in addition to 253 more which tried bypassing web filters. Others were banned for violating intellectual property rights, providing illegal online proxy services and other illegal activities. After discovering a website that provides illegal content, the TRA asks the authorized service-providing companies to block the websites and its related pages. (Various 18.04)

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5.6. Saudi Arabia Releases First Quarter Budget Performance Report

Saudi Arabia's budget deficit in the first quarter of 2020 stands at SAR 34.107 billion (\$9.07 billion), according to a performance report released by the Kingdom's finance ministry on 29 April. The Kingdom

recorded revenues worth SAR 192.072 billion (\$51.219 billion) while its expenditures were registered at SAR 226,179 billion (\$60.314 billion). Total revenues figure in the first quarter was down 22% from the same period last year, according to the report.

Saudi Arabia's oil revenues fell 24% in Q1/20 to SAR 128.771 billion while non-oil revenues fall 17% during the first quarter of this year to SAR 63.3 billion. The Kingdom's expenditure on subsidies in Q1/20 reached SAR 3.48 billion, falling 66% from SAR 10.31 billion a year ago. (Al Arabiya 29.04)

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5.7. Coronavirus & Oil Crash Impact Turns Back the Economic Clock for Saudi Arabia

The meltdown in oil markets is turning back the economic clock for Saudi Arabia, putting it on track for the deepest contraction in two decades. Already under lockdown to contain the spread of the coronavirus pandemic, the world's largest crude exporter is bracing for a second impact from the oil rout and unprecedented production cuts negotiated by OPEC and its allies. Both will slash government revenue and in turn derail a fragile economic recovery. Brent crude traded at under \$19 a barrel on 21 April - a quarter of the level Saudi Arabia needs to balance its budget - leaving officials with limited options to offset economic pain without crippling public finances.

The setback presents difficult choices for Crown Prince Mohammed bin Salman. After the last oil price slump, from 2014 to 2016, he announced a major economic transformation plan. While officials have made significant progress - developing fledgling sectors like entertainment and lifting non-oil revenue with taxes and fees - the economy still hinges on crude. Now the price shock is threatening many of the government's gains, making it difficult to fund projects and investments when over 60% of revenue this year was meant to come from oil.

So far, Saudi Arabia has reported one of the lowest rates of Covid-19 infection in the region, with less than 12,000 cases among 34 million people. That's partly due to aggressive measures to slow the spread, steps that are also shutting down swaths of the \$779 billion economy. The price rout was partly caused by a supply surge during a bitter oil-price war between Saudi Arabia and Russia -- but underlying it is expectations of a drawn-out period of lower demand.

Gross domestic product could shrink more than 3% in 2020 in what would be the first contraction since 2017 - and the biggest since 1999. Unemployment is poised to spike as businesses struggle to stay afloat. The government's budget deficit could widen to 15% of economic output and the fiscal shortfall reached 4.5% last year after peaking at just over 17% in 2016, according to the IMF. (AB 22.04)

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5.8. Saudi Arabia May Borrow Extra \$26.6 Billion Amid Low Oil Prices & Coronavirus Crisis

On 22 April, Saudi Minister of Finance, Acting Minister of Economy and Planning, Mohammed al-Jadaan said Saudi Arabia may borrow an additional SAR 100 billion (\$26.6 billion) this year and the total debt could reach SAR 220 billion (\$58.5 billion). The Kingdom will draw down no more than SAR 110-120 billion (\$29.2-31.9 billion) from its reserves to finance a government deficit caused by oil price collapse and the coronavirus pandemic. Al-Jadaan highlighted that the Kingdom has the financial ability to combat the coronavirus crisis and that the government is looking at additional measures to reduce spending amidst the coronavirus outbreak.

Saudi Arabia has so far announced economic stimulus amounting to SAR 177 billion (\$47 billion). That included SAR 47 billion (\$12.5 billion) allocated to the healthcare sector and SAR 130 billion (\$34.5 billion) allocated to support the private sector and individuals. He pointed out that the non-oil private sector is expected to contract this year for the first time. The impact of the coronavirus pandemic on both oil and non-oil revenues will be very limited in the first quarter of the year. He added that the government will announce additional measures to support the economy by the end of the coming June. (Al Arabiya 22.04)

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5.9. Saudi's Tourism Industry Could Take 45% Loss Due to COVID-19

Saudi Arabia's tourism industry could suffer a loss of up to 45% this year as a result of the coronavirus pandemic. Just months after the kingdom opened its doors to the world in launching a new visa scheme for 49 countries in September last year, the COVID-19 outbreak slammed the shutters closed, with widespread measures implemented to curb the spread of the deadly virus. This included closing its borders to overseas *umrah* pilgrims and to tourists from at least 25 countries at the start of March. While later in the month, all travel in and out of the country was suspended. The containment measures have dented the kingdom's plans to diversify its economy away from oil, and have tourism contribute 10% of GDP by 2030.

On 26 April, Saudi Arabia joined nations around the world in gradually loosening restrictions that were put in place to prevent the spread of coronavirus. The kingdom partially lifted a 24-hour curfew in all regions except Makkah and will allow resumption of some commercial and economic activities. Some 2.5 million pilgrims usually flock to the kingdom for the week-long haj ritual, expected to take place in July this year. But Saudi Arabia has urged Muslims to wait before making plans to attend until there's more clarity about the deadly coronavirus pandemic. (AB 26.04)

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5.10. Saudi Arabia Submits Bid to Host 2030 Asian Games in Riyadh

Saudi Arabia has submitted a bid to host the 2030 Asian Games, according to the Olympic Council for Asia. The bid document from Saudi's National Olympic Committee was accompanied by letters of support from Riyadh Municipality and the kingdom's government. A successful Saudi bid would mark its first ever OCA multi-sport event. The OCA had invited bids for the 2030 Games from its 45 members. A second bid was submitted by Doha.

The host city will be selected at the OCA General Assembly meeting in China on 29 November. Saudi Arabia had planned to host its biggest sporting event earlier this month, with 6,000 athletes expected to participate. The 'Saudi Games' was to be held in Riyadh between 23 March and 1 April, featuring 40 sports - including swimming, athletics, archery, badminton and basketball. (Various 24.04)

►► North Africa

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5.11. Egypt Approves New \$400 Million World Bank Loan for Health Insurance

Egypt has decided to move forward with procedures to obtain a \$400 million World Bank facility to support the country's inclusive health insurance system. The move comes after the World Bank approved increasing the value of the facility from the previous \$250 million, the cabinet added.

The new facility is meant to finance the inclusion of vulnerable groups in the system, upgrade the country's healthcare infrastructure in the governorates where the new system is implemented, and to provide structural support for the system. This follows a World Bank \$847.69 million program announced in November 2019 to support the health insurance system, according to the World Bank.

The program was extended from 12 January to 31 March 2020 with a \$510 million fund provided by the International Bank for Reconstruction and Development, a lending arm of the World Bank group, and \$337.69 million from bodies outside the World Bank. (DNE 29.04)

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5.12. Egypt's Imports Shrink Following COVID-19 Outbreak

Egypt's non-petroleum imports declined by 24% in Q1/20 compared to the same period last year to \$13.81 billion, according to Ministry of Trade and Industry. Prolonged lockdown periods and depressed international trade activity could result in significant import savings. The trade balance deficit could narrow to \$31.5 billion in fiscal year 2019-20 from previous estimates of \$35.8 billion. For example, about 25% of Egypt's imports come from China, which has been adversely affected by the coronavirus outbreak, leading to the closure of factories and the suspension of exports. European exporters like Spain, Italy, and Germany have also cut down or halted production due to the outbreak of the virus.

Recently released data from the World Trade Organization suggest international trade will decrease by between 13 and 32% this year due to the spread of the coronavirus. Once imports pick up again, demand for Chinese exports will increase, particularly because 90% of imports from China are for industrial raw materials, including pharmaceutical raw materials and materials needed for food production.

Some 80% of Egypt's imports of household and electronic spare parts come from China. Egyptian factories are at present working with materials they have in storage and problems will arise should they run out of stockpiled materials. Egypt banned the import of some Chinese products in February, including onions, fearing the spread of the Covid-19 virus. Egypt's imports rose last year by 20.8% to \$71.9 billion, up from \$59.5 billion in 2018.

The country's non-petroleum trade deficit dropped by \$1.4 billion to \$18 billion in the first half of the fiscal year 2019-20, down from \$19.4 billion during the same period the year before. This was the result of a rise in non-petroleum exports by \$940.9 million to \$9.2 billion, up from \$8.3 billion a year earlier. Egypt increased its imports of gold, radio and television sets, medicines and medical items, and inorganic and organic compounds. The country's imports of non-petroleum products retreated by \$490.7 million this fiscal year to \$27.2 billion, down from \$27.7 billion during the same period a year earlier. These products include cast iron, wheat, spare parts for vehicles and medicines. (Al-Ahram 23.04)

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5.13. Morocco Extends State of Emergency Until 20 May

Morocco's government announced its decision to prolong the country's state of emergency for 30 more days until 20 May, as COVID-19 cases continue to increase. Morocco was initially planning to end the confinement period, which started on 20 March, on 20 April. The continuous increase of the novel coronavirus cases led the government to extend the state of emergency until it manages to sufficiently contain the virus.

On April 16, the Ministry of Health confirmed Morocco had 2,670 COVID-19 cases, including 298 recoveries and 137 fatalities. The extension of the state emergency leaves Moroccans in lockdown in Ramadan. Morocco has been intensifying efforts against the spread of the virus. The country shut down schools, mosques, hammams, restaurants, and cafes in March as part of its measures to counter the pandemic. Morocco also indefinitely suspended international flights and maritime travel on 15 March. A few days later, the country decided to implement a nationwide state of emergency for one month, which is now extended. (MWN 18.04)

6. TURKISH, CYPRIOT & GREEK DEVELOPMENTS

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6.1. Turkey Overtakes China as Largest COVID-19 Center Outside of the US & Europe

As of 21 April, Turkey had the most confirmed cases of the novel coronavirus outside the United States and Europe with 86,306. Turkey's Health Minister Dr. Koca said on 19 April that the country confirmed 3,977

new cases in 24 hours. Turkey already had the most confirmed coronavirus cases in the Middle East. Iran is in second place with more than 83,000 cases.

Turkey first started imposing lockdowns to curb the spread of the virus in late March, after reporting its first confirmed case on 10 March. The Turkish government has defended its response to the virus recently as the number of cases increased. The pandemic has led to political battles in Turkey as well. The Interior Ministry is investigating the mayors of Ankara and Istanbul over the fundraising campaigns they started to fight the pandemic. Both mayors are members of the opposition Republican People's Party.

Meanwhile, Turkey's major provinces will mark the beginning of Ramadan under curfew. Thirty one provinces across the country will be under lockdown from 23 to 26 April, President Erdogan announced. Observing Muslims will begin fasting on 24 April, which marks the beginning of Ramadan in the country.

Traditional Ramadan preparations usually include outings for bulk grocery shopping in Turkey, but people will likely have a hard time this year due to the strict coronavirus restrictions and shortage of supplies triggered by stockpiling. Turkey will observe a four-day long holiday after Ramadan ends on 23 May. (Al-Monitor 20.04)

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6.2. Turkish Currency Crisis a High Probability, Danske Bank Says

Turkish lira weakness will probably turn into a full-blown currency crisis due to policy mistakes by the central bank, Danske Bank said. Monetary policymakers have front-loaded interest rate cuts before stabilizing inflation, meaning they are having to fight capital outflows and mounting pressure on prices, Danske Bank said on 28 April. With the central bank's foreign currency reserves eroding, only a small push is needed to tip the lira over the edge.

Turkey's central bank has exhausted its foreign currency reserves, net of liabilities, by defending the lira just short of 7 per dollar in recent weeks. The Turkish currency could fall towards 8 per dollar before recovering somewhat.

The central bank has used up about a third of its gross foreign currency reserves since March. They have dropped to just over \$50 billion from \$78 billion early in the year. Meanwhile, it has slashed interest rates to 8.75% from 24% last July. Turkish monetary policymakers see a strong tapering in inflation pressures, putting it at odds with the market. The central bank cites lower commodity prices for its assumptions, but in high inflation countries such as Turkey and Argentina, it is not commodity prices that matter. Inflation in Turkey stands at 11.9%. (Ahval 29.04)

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6.3. Scope Ratings Says Cyprus Among Most Vulnerable to External Shocks

Cyprus ranks among the top three EU countries facing the greatest external sector risk, according to Scope Ratings' updated external vulnerability and resilience ranking. Among 63 economies, Taiwan, China and Switzerland are the "sturdy-3", heading up the least vulnerable to external shock. Inside the EU, Scope pinpointed Cyprus (BBB-/Stable), Croatia (BBB-/Stable) and Romania (BBB-/Negative) as the three EU members facing the greatest external sector risk. Cyprus leads the EU risky-3, Scope said explaining its current account deficit widened to 6.7% of GDP in 2019, from 4.4% of GDP in 2018.

The economy's external position is characterized by high deficits in its trade in goods (21.5% of GDP in 2019), offset by very high surpluses in services trade (21.3% of GDP), and the latter due to Cyprus' standing in tourism services and as a financial services hub. Nonetheless, current account deficits have resulted in one of the largest negative NIIP levels among EU economies at -116%, alongside very high gross external debt levels of 936% of GDP in Q4/19, which, nonetheless, still represent deleveraging against a 2015 peak at 1,263% of GDP. In addition, well above 70% of government debt is held by non-residents."

Scope Ratings added that Cyprus benefits from euro area membership, unlike its peers in the 2020 EU risky-3: Croatia and Romania, giving Cyprus access to credit strengths in crisis moments such as reduced FX volatility and capped borrowing rates deriving from the common reserve currency. (FM 22.04)

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6.4. COVID-19 Forces Cyprus to Embrace the Digital Era

Due to adversity, Cyprus has had to expand digital technology by offering online government solutions to help the public and businesses navigate the COVID-19 lockdown. Deputy Minister of Innovation Kyriacos Kokkinos told CNA that his newly established ministry is focusing on preparations to offer more online services to help through the crisis. Kokkinos said adjustments to the action plan have been made since his new Deputy Ministry was established in March due to needs dictated by the crisis and social distancing.

He said steps that were part of longer-term planning to be implemented within two or three years now has to be done within a matter of months. He gave the example of Citizen Service Centres, where the goal is instead of having 1,000 people per day visiting them, to offer services electronically and reduce that number to 100 to 200 visits per day. There are other government departments in need of a digital upgrade such as the Registrar of Companies, the Town Planning and Housing Department and the Land Registry which many businesses are required to visit.

A necessary prerequisite according to Kokkinos is the electronic signature, which is expected to be implemented quicker than its planned introduction in January 2021. In many cases the digitization of procedures will also mean the need for simplification, which equates with reducing red tape. After years of roaming in the technological wilderness, COVID-19-stricken Cyprus has realized that e-government should be a top priority. (FM 23.04)

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6.5. Calls for Cyprus-Greece Tourism Pact

Cypriot and Greek tour operators want Cyprus and Greece to be treated as a single tourist market in efforts to buffer the devastating impact of the coronavirus outbreak on their tourism. The Hellenic Association of Travel & Tourist Agencies (HATTA) and the Association of Cyprus Travel Agents (ACTA) will submit a joint proposal to Nicosia and Athens for Cyprus and Greece to be considered a single area for tourism. The decision was taken during a teleconference where they confirmed their readiness to create a new tourist pact. The proposal will include sharing tourists when the conditions allow and provided both countries have successfully tackled the COVID-19 pandemic.

A prerequisite for the successful outcome of the cooperation will be the opening of Cyprus airports which the travel agents are waiting for. Welcoming the decision, the Cyprus-Greece business association said the exchange of tourists is a very positive step in efforts to handle the repercussions of the coronavirus pandemic in the tourism industry. It said that both countries can cover part of their losses from tourism if they provide generous incentives to their citizens to visit the other country over the summer. The association suggested joint tourism packages for visiting Cyprus and Greece can be offered in countries with low numbers of coronavirus cases, with health measures that will be valid for tourists. It is working closely with the Deputy Ministry of Tourism and the Greek National Tourism Organization in Cyprus to implement these initiatives for the benefit of both countries. To promote closer tourism cooperation a ferry connection between Greece and Cyprus is being revived after it stopped operating in 2000. (FM 28.04)

7. GENERAL NEWS AND INTEREST

***ISRAEL:**

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7.1. Israel's Population Grows by 1.9% Over the Past Year

The Central Bureau of Statistics (CBS) announced on the eve of Israel's 72nd Independence Day, the Israeli population numbers 9,190,000. Of Israel's population, 6.806 million, or 74%, are Jews, 1.93 million (21%) classified as Arabs and 454,000 are defined as "other" (5% of the population). Since the previous Independence Day, the country's population has increased by 171,000, or by 1.9%, which includes about 180,000 newborn babies during the year and 32,000 new immigrants. Some 44,000 people died over the last year. At the re-establishment of the state, the population of Israel numbered 806,000. Since then, 3.3 million immigrants have arrived, approximately 44% of them since 1990.

The CBS estimates that by 2030, Israel's population will number 11 million people and that on the 100th Independence Day, in 2048, 15.2 million people will live in Israel. About 45% of the world's Jewish population live in Israel. Some 78% of the Jews in the country are Sabras (born in Israel). Nearly 950,000 children aged 0-4 live in Israel, as well as some 50,000 people aged 90 and over.

The Israeli population is young compared to developed countries: 28% of Israeli residents are children up to the age of 14, while the average in OECD countries is 18%. The proportion of people aged 65 and over in the population is 12% compared to the average of 17% in other OECD countries. (CBS 26.04)

***REGIONAL:**

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7.2. Saudi King Approves Reduced Taraweeh Prayers in Two Holy Mosques for Ramadan

Saudi Arabia's King Salman bin Abdulaziz Al Saud approved performing a reduced version of Taraweeh prayers in the Two Holy Mosques in Mecca and Medina, with the continued suspension of entry of worshipers. Group Taraweeh prayers will be performed in the Two Holy Mosques, but only limited to the authority's employees and workers. The General Presidency for the Affairs of the Two Holy Mosques prepared a comprehensive plan for the implementation of coronavirus precautionary health measures during the holy month of Ramadan in Mecca and Medina. The plan includes the continued restriction to allowing worshipers to enter the Grand Mosque in Mecca and the Prophet's Mosque in Medina, as well as increasing the sterilization processes and thermal testing of every worker and those entering for funeral rites. The attendance of employees at the Two Holy Mosques will continue to be restricted to the absolutely necessary workers, and operations of maintenance will be conducted depending on priority and in accordance with the precautionary measures.

The Ramadan group iftars that were traditionally held in the Grand Mosque and the Prophet's Mosque were assigned to Mecca and Medina's provincial authorities, who will distribute iftar meals while maintaining the necessary health precautions. (Al Arabiya 22.04)

8. ISRAEL LIFE SCIENCE NEWS

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8.1. Beyond Air Begins Study Evaluating Nitric Oxide Treatment for COVID-19 Patients

Beyond Air announced that the U.S. FDA agreed with the initiation of a clinical study in the U.S. using its LungFit system to treat COVID-19 patients. Applications for funding are pending with the Biomedical Advance Research and Development Authority (BARDA), a division of Health and Human Services (HHS).

The LungFit will be used in an open-label study, to treat 20 patients between the ages of 22 and 65 years hospitalized with COVID-19. Subjects will be randomized 1:1 and treated with 80 ppm NO administered over 40 minutes, 4 times per day, in addition to standard of care (SOC) or treated with SOC alone. The primary endpoint is time to clinical deterioration as measured by the need for: 1) non-invasive ventilation:

or 2) high flow nasal cannula; or 3) intubation. Other endpoints include reduction in viral load, need for supplemental oxygen, hospital length of stay, mortality, safety and various biomarkers.

Rehovot's [Beyond Air](#) is a clinical-stage medical device and biopharmaceutical company developing a revolutionary NO Generator and Delivery System, LungFit, which uses NO generated from ambient air to deliver precise amounts of NO to the lungs for the potential treatment of a variety of pulmonary diseases. The LungFit can generate up to 400 ppm of NO, for delivery either continuously or for a fixed amount of time and has the ability to either titrate dose on demand or maintain a constant dose. The Company is currently applying its therapeutic expertise to develop treatments for pulmonary hypertension in various settings, in addition to treatments for respiratory tract infections that are not effectively addressed with current standards of care. Beyond Air is currently advancing its revolutionary LungFit for clinical trials for the treatment of severe lung infections such as SARS-CoV-2 and nontuberculous mycobacteria (NTM). Additionally, Beyond Air is using ultra-high concentrations of NO with a proprietary delivery system to target certain solid tumors in the pre-clinical setting. ((Beyond Air 16.04)

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8.2. Hargol FoodTech Completes \$3 Million Investment for Grasshoppers for Protein

Hargol FoodTech completed a financing round of \$3 million from existing shareholders, Singaporean-based Sirius Venture Capital and Netherlands-based SLJ Investment Partners. Hargol FoodTech a world leader in commercial grasshopper farming has developed an innovative farm system for high-quality and sustainable grasshopper protein production. Hargol FoodTech took up the challenge of providing a superior protein alternative based on its proven technology and optimized methods of growing grasshoppers quickly and under sanitary conditions. The Company proved that its grasshoppers contain more than 70% protein, all essential amino acids, and high levels of omega-3 and omega-6.

The funds raised in this round will be used to expand Hargol's production capacity including a new production facility and launch the Biblical Protein products line.

Misgav's [Hargol FoodTech](#) is a world leader in grasshoppers farming. The company has developed optimized methods and technology to enable growing grasshoppers quickly and under sanitary conditions for a reliable, sustainable, and quality protein source. Hargol FoodTech's product lines include grasshopper protein powder, supplements and meat replacement products. (Hargol FoodTech 16.04)

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8.3. Else Nutrition Expands Intellectual Property Portfolio to India and Canada

Else Nutrition Holdings announced that they have expanded their intellectual property (IP) portfolio to India and Canada. The Company has received a formal grant from the Indian Patent office for its patent application 640/CHENP/2015, and a notice of allowance from the Canadian Intellectual Property Office for its patent application 2898980, for its proprietary, clean, plant-based formulation for infant and toddler populations.

Tel Aviv's [Else Nutrition](#) is a food and nutrition company focused on developing innovative, clean and plant-based food and nutrition products for infants, toddlers, children and adults. Its revolutionary, plant-based, non-soy, formula is a clean-ingredient alternative to dairy-based formula. Else Nutrition (formerly INDI) won the "2017 Best Health and Diet Solutions" award at the Global Food Innovation Summit in Milan. The holding company, Else Nutrition Holdings Inc, is a publicly-traded company, listed as TSX Venture Exchange under the trading symbol BABY and is quoted on the US OTC Markets QB board under the trading symbol BABYF. (Else 20.04)

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8.4. OurCrowd Leads \$12 Million Round for Israeli COVID-19 Vaccine Company MigVax

Jerusalem's OurCrowd, the world's largest crowdfunding venture investment platform, announced that it would lead a \$12 million investment in the newly formed MigVax Corp., which will develop a novel COVID-19 vaccine. [MigVax](#), an affiliate of The Migal Galilee Research Institute, is pioneering the effort to develop Israel's human vaccine against COVID-19. The Migal Galilee Research Institute has previously developed a vaccine against infectious bronchitis virus, a coronavirus strain which causes bronchial disease affecting poultry. The safety and effectiveness of the poultry vaccine has been proven in animal trials carried out at Israel's Veterinary institute. MigVax is using the methods learned from the existing vaccine to develop a new oral subunit human vaccine against COVID-19. MIGAL's interdisciplinary vaccine development team has been collaborating for several years on other vaccine development projects and is highly qualified to carry out this project.

Kiryat Shmona's [MigVax](#) was established by MIGAL, which granted MigVax an exclusive worldwide license to make, use and practice the vaccine technology for the development, manufacture, and commercialization of vaccine for viruses in humans, starting with the COVID-19. The COVID-19 vaccine project initiated upon an inter-disciplinary research team successful development of a vaccine against Infectious Bronchitis Virus (IBV), an avian (poultry) Coronavirus with high similarity to today's human COVID-19 that uses the same infection mechanism.

Kiryat Shmona's [Migal Galilee Research Institute](#) is an internationally recognized and multi-disciplinary applied research institute, specializes in biotechnology and computer sciences, plant science, precision agriculture and environmental sciences as well as food, nutrition and health. Migal is the largest regional R&D center of the Israeli Science and Technology Ministry. (OurCrowd 22.04)

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8.5. VBL Therapeutics Awarded NIS 3.2 Million Grant for VB-111

VBL Therapeutics has been awarded a non-dilutive grant of up to NIS 3.175 million (approximately \$0.9 million) by the Israel Innovation Authority (IIA). The IIA has approved a budget of some \$1.8 million for the VB-111 project during 2020, with 50% of this amount as an IIA grant. The funds will support the continued development of VBL's lead product candidate, VB-111, a first-in-class targeted anti-cancer gene-therapy agent. VB-111 is currently being evaluated in a Phase 3 potential registration study (OVAL) for the treatment of platinum-resistant ovarian cancer.

On 26 March, VBL announced a positive outcome in the first interim analysis in the OVAL study, demonstrating an absolute percentage advantage of 10% or higher CA-125 response rate for the VB-111 treatment arm. According to the interim data, the response rate in the treatment arm was 58% or higher. In patients with post-treatment fever, the CA-125 response was 69%. Fever is frequently observed after VB-111 treatment. The CA-125 response rate observed in the Phase 3 interim analysis is at least as good as the response rate seen in the successful Phase 2 trial, which enrolled a similar population of patients with platinum-resistant ovarian cancer and showed overall survival benefit.

VB-111 is a first-in-class, targeted anti-cancer gene-therapy agent that is being developed to treat a wide range of solid tumors. VB-111 is a unique biologic agent that uses a dual mechanism to target solid tumors. Its mechanism combines blockade of tumor vasculature with an anti-tumor immune response.

Modi'in's [Vascular Biogenics](#), operating as VBL Therapeutics, is a clinical stage biopharmaceutical company focused on the discovery, development and commercialization of first-in-class treatments for areas of unmet need in cancer and immune/inflammatory indications. (VBL Therapeutics 21.04)

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8.6. Itamar Medical Funds Evaluation of CPAP Therapy Impact to Patients with COVID-19

Itamar Medical announced the initiation of a funded trial that will evaluate the use of CPAP to manage patients with confirmed or suspected COVID-19. The study is a prospective, single-center, parallel group, open-label, randomized clinical trial to assess the efficacy of CPAP in 200 COVID-19 confirmed or suspected patients within the Mount Sinai Health System with respiratory symptoms who do not require hospital admission and are discharged home from the emergency room. The primary aim of the study is to determine if early, low, fixed CPAP at home reduces the risk of hospital/ER re-admission or death in COVID-19 confirmed or suspected patients. Secondary aims of the study are to determine if obstructive sleep apnea (OSA) and obesity are independently associated with increased hospitalizations, mechanical ventilation, and/or death in COVID-19 suspected or infected patients. The study will also track COVID-19 conversion rates for household members of participants randomized to CPAP vs. control. All subjects will self-quarantine for the duration of CPAP use. They will also receive a disposable WatchPAT ONE connected to the Itamar Medical Digital Health platform and activated through a smartphone application to determine their sleep apnea status. Subjects will be randomized to receive 72 hours of CPAP or to a control group (n=100 in each group). The primary endpoint of the study is time to hospital admission (includes ER visit) or death within 14 days of randomization.

Caesarea's [Itamar Medical](#) is a medical technology company focused on the development and commercialization of non-invasive medical devices and solutions to aid in the diagnosis of respiratory sleep disorders. Itamar Medical commercializes a digital healthcare platform to facilitate the continuum of care for effective sleep apnea management with a focus on the core sleep, cardiology and direct to consumer markets. Itamar Medical offers a Total Sleep Solution to help physicians provide comprehensive sleep apnea management in a variety of clinical environments to optimize patient care and reduce healthcare system costs. (Itamar Medical 22.04)

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8.7. IceCure Enters German Cryoablation Oncology Market with New Agreement

IceCure Medical has entered into an exclusive distribution agreement with Germany's MTS Medical Technology. The new agreement will accelerate commercialization of its CE-cleared, next generation liquid-nitrogen-based cryoablation system, ProSense and its consumables, for the treatment of benign and malignant tumors in the fields of breast and interventional oncology, including kidney, bone and lung cancer, in Germany. MTS Medical Technology is considered one of the leading distributors of medical imaging equipment in Germany, with over 30 years' experience engaged in marketing and distribution. IceCure and MTS medical's experienced team are prepared for remote installation and clinical training should the Coronavirus outbreak prevent physical installation. The company plans to continue penetration into other markets of strategic importance.

Founded in 2006, Caesarea's [IceCure Medical](#) is a medical device company that develops and markets an advanced liquid-nitrogen-based cryoablation therapy for women's health and the interventional oncology market, with the primary focus areas being breast, kidney and lung cancer. Its technology is a safe, effective, non-invasive alternative to surgical tumor removal that is easily performed in a short procedure. The system has US FDA 510k and CE Mark clearance and is sold worldwide. (IceCure Medical 22.04)

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8.8. t-syte Leads Funding Round in Habitu

t-syte, the Digital Health venture lab, has led a funding round in Habitu. Habitu has developed an interactive platform to improve the experience of participants in clinical trials and patients in community-based healthcare. Habitu is a pioneer in enabling interventions in clinical trials and in healthcare treatment programs, based on predictions of participant behavior. Habitu has recently rolled out two installations, one supporting clinical trials in Israel and the other supporting community-based healthcare in Chicago, Illinois.

[t-syte](#) is a venture lab based in Herzliya Pituah, Israel. T-syte's unique model includes investment together with significant support, to help build digital health ventures better and faster.

Herzliya's [Habitu](#) is the first solution providing a private and interactive community platform specifically targeting clinical trials and patient support programs in community-based healthcare. Habitua's platform not only enables continuous emotional and professional support to remote patients, its proprietary AI engine provides unprecedented behavioral predictions driving real-time alerts and automatic timely interventions. Thus, creating a superior personalized trial experience for patients, and better performance for medical centers and pharmaceutical/BioTech companies. (t-syte 22.04)

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8.9. Israel's InnovoPro Raises \$15 Million for Chickpea Protein Production

Israeli chick-pea protein company InnovoPro has raised \$15 million in a financing round led by Jerusalem Venture Partners (JVP) and with the participation of CPT Capital. Prior investors include Swiss retailer Migros. InnovoPro said it would use the new funds to boost production of its chickpea protein and form business development and marketing joint ventures. Chickpeas (hummus) naturally contain 20% protein, but InnovoPro can produce up to 70% of protein essence from chickpeas for use in dairy, meat and mayonnaise substitutes. Products based on its protein have already been launched in the US, Europe and Israel. The company said it is targeting an over \$40 billion market for protein ingredients.

Rishpon's [InnovoPro](#) is committed to bringing unique vegan protein ingredients to the global food market to create nutritious, affordable, tasty, safe, and sustainable food products. With an excellent nutrition profile, good taste, wide usability properties, InnovoPro's chickpea protein is the best choice for the growing vegan protein market. InnovoPro has made considerable progress in developing chickpea proteins and other chickpea ingredients. InnovoPro has been recognized as an innovator of disruptive technology in the food industry. (InnovoPro 23.04)

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8.10. Mechanical Pollination May Be a Solution to a Lack of Bees

Israel's Edete Corporation had developed the mechanical pollination after a drastic fall in bee numbers around the world, largely due to intensive agriculture, the use of pesticides and climate change. Most crops rely on pollination, so the trend has worried groups like the U.N. Food and Agriculture Organization as it looks to fight hunger in the growing human population. Edete Precision Technologies for Agriculture says its artificial pollinator can augment the labors of - and eventually replace - bees. Its system mirrors the work of the honey bee, beginning with a mechanical harvest of pollen from flowers and ending with a targeted distribution using LIDAR sensors, the same technology used in some self-driving cars.

Edete has been working on a small-scale trial in several orchards in Israel and Australia and has agreements to do the same in the United States. The company hopes to scale up and be ready to sell its products on the market in 2023.

Tivon's [Edete Precision Technologies for Agriculture](#) is solving the world's ever-growing pollination challenge with a high-efficiency artificial-pollination-as-a-service solution that will soon provide optimal pollination services to companies and growers. By reducing the deficiencies of erratic and dwindling insect-based pollination, Edete's controlled and manageable artificial pollination solution has been proven to increase the yield of almond orchards. (Edete 26.04)

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8.11. FDA Grants NEXUS Aortic Arch Stent Graft System Breakthrough Designation

Endospan was recently granted Breakthrough Device Designation from the U.S. FDA for the NEXUS Aortic Arch Stent Graft System. The FDA's Breakthrough Device Designation Program is intended to provide timely access to medical devices that have the potential to provide a more effective treatment for life-

threatening or irreversibly debilitating diseases or conditions by prioritizing review of its regulatory submissions, thereby expediting the device development process. The designation of NEXUS Aortic Arch Stent Graft System as a breakthrough device acknowledges the unmet need in this patient population and the potential for improvements over current standard treatments.

Minimally invasive techniques are standard-of-care for treating descending aortic disease and heart disease, but highly invasive, high-mortality open surgery is still being used in the difficult-to-treat aortic arch anatomy. The NEXUS Aortic Arch Stent Graft System is uniquely engineered to address this significant area of unmet clinical need. More than 120,000 patients suffer thoracic aortic arch disease every year in the USA and Europe, with only about 25% being diagnosed or treated. This global market opportunity is over \$1.3 billion in a high average selling segment with no other off-the-shelf competition to the NEXUS technology.

Privately held [Endospan](#), headquartered in Herzliya, is a pioneer in the endovascular repair of aortic arch disease including aneurysms and dissections. Endospan's NEXUS Aortic Arch Stent Graft System is the first endovascular off-the-shelf system with CE Mark to treat a greatly underserved group of patients diagnosed with a dilative lesion in, or near the aortic arch. While minimally invasive endovascular repair has been the standard of care for Abdominal Aortic Aneurysm (AAA), Aortic Arch Disease patients with aneurysms or dissections have not been as fortunate and have had little choice but to undergo open-chest surgery with its invasiveness and risks, lengthy hospitalization periods, and prolonged recuperation. (Endospan 20.04)

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8.12. Eybna & CannaSoul Join to Treat Viral Infections via Cytokine Storm

CannaSoul and Eybna Technologies announced they have jointly engaged in a mutual assays of CannaSoul's (through its Myplant-Bio subsidiary) Cytokine Storm Assay and Eybna's Novel NT-VRL formulation dedicated for treatment and prevention of viral infections - specifically for high-risk populations and treatment of actively ill patients.

The collaboration will enable CannaSoul's analytical expertise, which is based on accumulated clinical data, to customize Eybna's NT-VRL terpene formulation for optimizing its anti-inflammatory and anti-viral properties. Myplant-Bio's Cytokine Storm Assay is a well-established preclinical in-vitro (or practically ex-vivo) assay. It provides evaluation of Cytokine Storm Syndrome with human peripheral blood mononuclear cells (hPBMCs). The FDA considers this assay as a good predictor for cytokine storm response and immunotoxicity, and it is commonly required in the development of biological treatments. The Cytokine Storm Assay evaluates the inhibitory effect of test items on cytokine secretion from human PBMCs, in response to bacterial Lipopolysaccharides (LPS - a cytokine storm inducing agent).

NT-VRL unique terpene formulation consumed by direct inhalation is aimed at fighting viral diseases and the novel COVID-19. Since the emergence of the 2002 SARS-Coronavirus outbreak, considerable efforts have been put into antiviral research to evaluate compounds for their antiviral activity in an attempt to prevent a re-emergence of the disease. Terpenes were found to be effective potential antiviral agents both in-vitro and in-vivo. The NT-VRL formulation intended to be used via inhalation. This delivery method dramatically increases the terpenes' bioavailability by directly contacting the infected cells in the respiratory system.

Caesarea's [CannaSoul Analytics](#) is a global leader in cannabis research and development. Dedicated to developing scientific intellectual property, medical products and technologies. Givat Chen's [Eybna](#) is a global leader in the research and development of cannabis phytochemicals therapeutic benefits, with a focus on terpenes. Eybna is a reputable manufacturer of proprietary terpene based formulations derived from natural, non-cannabis plant origins to develop novel therapeutic botanical products. (Eybna 22.04)

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8.13. Maccabi Launches AI-Powered Algorithm to Detect Potential COVID-19 Cases

Maccabi Healthcare Services, Israel's leading HMO with 2.4 million members, announced the deployment of a new AI-powered algorithm that identifies individuals estimated to be at the highest risk of severe COVID-19 complications due to pre-existing conditions and other health factors. The new algorithm has already identified the top 2% of highest-risk patients (approximately 40,000 people), following analysis of all Maccabi patients' anonymized electronic health records (EHRs).

The algorithm was developed by Medial EarlySign and the Kahn-Sagol-Maccabi Research and Innovation Institute. Medial EarlySign is a technology leader in machine learning-based solutions that aid in the early detection and prevention of high-burden diseases. The company is currently in advanced negotiations with prominent medical systems in the United States who are interested in the algorithm as part of their COVID-19 healthcare protocols.

When an individual flagged by the algorithm as high-risk contacts a nurse or doctor to report COVID-19-like symptoms, the system will automatically notify the medical professional that the patient is in the high-risk group. The patient will then be sent for immediate testing. Tests are performed at designated Maccabi facilities, drive-in stations or, if necessary, in the patient's home. This allows for medical procedures to begin as quickly as possible following a positive diagnosis, helping to limit the spread of the virus. The new algorithm enables Maccabi to objectively select the patients who should be fast-tracked for COVID-19 testing and classifies them according to three levels of estimated risk. Maccabi's COVID-19 medical task force can also use the risk levels as part of its decision-making on optimal hospitalization options for each patient – home hospitalization, designated hotels, or hospital admission – and the necessary frequency of follow-ups for each patient.

Tel Aviv's [Maccabi Healthcare Services](#) is one of the world's largest healthcare providers with 2.4 million members. Maccabi has long been recognized, both in Israel and abroad, as a unique and innovative health care system which leads the way in cutting edge medical technology, comprehensive and integrated computerized information systems, cost-effective management, and sophisticated monitoring and evaluation tools.

The [Kahn-Sagol-Maccabi Research and Innovation Institute](#)'s vision is to accelerate precision medicine and lead in big data analytics. The institute aims to increase the amount and quality of medical research being performed at any given moment in Israel and worldwide and partner with the most advanced AI companies to develop innovative, predictive, and personalized tools in service of the new era of medicine.

Hod HaSharon's [Medial EarlySign](#) helps healthcare systems with early detection and prevention of high-burden diseases. Their suite of outcome-focused software solutions (AlgoMarkers) find subtle, early signs of high-risk patient trajectories in existing lab results and ordinary EHR data already collected in the course of routine care. The algorithmic models developed using the company's machine learning approach are supported by peer-reviewed research published by internationally recognized health organizations and hospitals. (Maccabi 22.04)

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8.14. Bio-Fence Solution for Protecting Public Areas Against the Coronavirus

Bio-Fence has developed coatings designed to prevent infection by pathogenic bacteria, such as Listeria and Salmonella in food production environments. The effectiveness of these coatings has been proven in laboratories under International Standard ISO 22196 and in food sites in Israel and worldwide. With the outbreak of COVID-19, the company decided to test the effectiveness of its coatings against viruses as well. The test results show that the company's coating products completely destroy the herpes virus, which is significantly more durable than the coronavirus.

Based on the recommendations of health and environmental organizations, chlorine-based materials are used as an effective disinfectant for surfaces from the Coronavirus. The anti-microbial, coating developed

by Bio-Fence, is based on this effective chlorine killing mechanism, and is unique in providing long-lasting protection, and by that significantly reducing the required frequency of disinfection. The company's products can be used for coating walls, floors, partitions, and surfaces in institutions, hotels, offices, factories, train stations, airports, airplanes and more. The technology is based on an innovative polymer, which can be combined within paints and coatings, providing them the ability to bind and stabilize chlorine. This, in turn, protects the coated surfaces for extended periods of time. The coatings are transparent and can be sprayed or painted quickly without damaging coated surfaces. This immediately creates an active, stable protection layer against the virus in case of infection.

Bio-Fence is currently developing a kit for testing the levels of active chlorine on the surfaces, to notify users when it should be reapplied (a simple action carried out by spraying or smearing a chlorine solution provided by Bio-Fence).

Ashdod's [Bio-Fence](#) was established in early 2018 through a collaboration between Strauss's FoodTech incubator, and experts in the field based on a core technology developed at the Israeli Institute of Biological Research (IIBR). The company has developed an innovative polymer which, when added to paints and coatings, provides them with the property of bonding and stabilizing chlorine on the coated surfaces. (Bio-Fence 22.04)

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8.15. Pi-Cardia Financing to Continue Trials With Its Leaflex Aortic Valve Technology

Pi-Cardia has closed a \$27 million round of financing, led by Sofinnova Partners, a leading Parisian life sciences venture capital firm, with further participation from existing investors. Pi-Cardia's Leaflex catheter performs mechanical scoring of valve calcification, restoring leaflets' mobility and improving valve hemodynamics. The Leaflex catheter is designed to be a cost-effective, durable standalone treatment. It can be used for patients who are not planning to undergo a trans catheter aortic valve replacement (TAVR) and it can be a means to defer TAVR in patients who may be too young for the procedure. It can also be a preparatory step for improving the outcome of TAVR in heavily-calcified and bicuspid aortic valves. Last year, Pi-Cardia successfully completed its First-in-Human studies, demonstrating acute safety and feasibility. The new financing will now enable the company to demonstrate the therapeutic effect of aortic valve scoring over time, through parallel clinical trials in the US and Europe.

Rehovot's [Pi-Cardia](#) is a global leader in the development of unique non-implant-based solutions for treating valve calcification. Pi-Cardia's lead product, the Leaflex Performer catheter, is easily delivered and positioned on the valve, to then mechanically score the calcification at multiple locations, restoring leaflets flexibility and improving valve hemodynamics. The Leaflex catheter is designed to be a cost-effective, durable standalone treatment or a preparatory step to improve the outcome of valve implantation in heavily calcified aortic valves, and in bicuspid aortic valves. (Pi-Cardia 20.04)

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8.16. Sheba Medical Center & NIH Partner for COVID-19 Research

Israel's Sheba Medical Center at Tel HaShomer and the National Institutes of Health (NIH), the US' biomedical and public health research agency, have joined forces to conduct applied scientific and clinical research in the hunt for treatments to end the global COVID-19 pandemic. As part of the agreement, Sheba Medical Center will supply the NIH's Vaccine Research Center with blood samples, plasma and the COVID-19 virus from infected patients in Israel. They will also send all relevant information gathered from a series of clinical trials the hospital is conducting with various treatments from global pharmaceutical companies, as well as its own experimental treatments, the Ramat Gan-based hospital announced on 23 April.

The NIH will support Sheba research on COVID-19 in order to accelerate the process of researching, understanding, and finding the most effective treatments and vaccines. (NoCamels 26.04)

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8.17. Scopio Labs Closes \$16 Million Series B to Expand Automated Microscopy Solutions

Scopio Labs completed a \$16 million financing round, bringing its total funding to \$30 million. The Series B round will enable Scopio Labs to expand commercial operations across human and veterinary care in the United States and Europe, by ramping up manufacturing and sales, and further developing a robust clinical trial pipeline to broaden its portfolio of offerings.

Scopio Labs is propelling microscopy into the digital age. Its platform automates the imaging of full microscopy samples into uniquely high resolution digital scans using cutting-edge computational photography techniques. Scopio also built and integrated end-to-end AI and remote consultation solutions for large and small labs and hospitals across the continuum of care to improve diagnostic processes while reducing turn-around time.

Olive Tree Ventures led the Series B funding round. Other investors include Aurum Ventures, OurCrowd, LR group and others. The closing of the funding round follows the company's receipt of a CE mark certification for its X100 Full Field Peripheral Blood Smear (PBS) microscopy system, an all-in-one automated in-vitro hematology diagnostic platform that enables remote consultation and includes a computer-vision based decision support system. In addition, a multi-center study in preparation of an FDA submission is being completed.

Tel Aviv's [Scopio Labs](#), founded in 2015, develops breakthroughs in digital microscopy that help improve accuracy, efficiency and accessibility wherever the microscope plays a role in the diagnostic process. The Scopio microscope captures and digitizes full slide microscopy data. Using advanced computational photography techniques to reconstruct data, Scopio offers an automated digital microscopy scanning system with uniquely high resolution and quality images. (Scopio Labs 28.04)

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8.18. DarioHealth Expands Remote Care Offering With Integration of Full-Service Telemedicine

DarioHealth Corp. announced a new partnership with Ohio's MediOrbis, a value-based telemedicine provider, to expand Dario's existing service offering with a full suite of telemedicine capabilities for its 50,000 active users. The decision to expand Dario's remote care services is driven by the increased risk for COVID-19 complications faced by Dario's 50,000 users who depend on Dario's digital platform to manage chronic conditions like diabetes, hypertension and obesity. With Dario's most recent app, users may now access a full complement of physician-directed, patient care from home and other remote locations, a capability necessary in the new healthcare reality of "Stay at Home" regions or quarantine mandated cities.

The MediOrbis platform delivers quality, easily accessible, remote healthcare to patients worldwide through the MySpecialistMD network composed of primary care, specialty care and sub-specialty care physicians on a world-class telemedicine technology platform. MediOrbis doctors are U.S. board-certified, state-licensed and credentialed in their respective fields from top medical institutions to provides multiple programs and services.

Caesarea's [DarioHealth Corp.](#) is a leading global digital health company serving its users with dynamic mobile health solutions. In today's day and age, knowledge of health and treatment is being democratized, and we believe people deserve to know everything about their own health and have the best tools to manage their condition. DarioHealth employs a revolutionary approach whereby harnessing big data, we have developed a novel method for chronic disease data management, empowering people to analyze and personalize self-diabetes management in a totally new way without having the disease slow them down. (DarioHealth 29.04)

9. ISRAEL PRODUCT & TECHNOLOGY NEWS

The Fortnightly may also be found at our Web site of: <http://www.atid-edi.com>

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9.1. Israel Partners with Vayyar to Introduce Life-saving Technology to Combat COVID-19

Vayyar announced that its life-saving sensor technology is being used by the Israeli government to fight the spread of COVID-19. Vayyar's intelligent sensors provide touchless, remote and confidential monitoring to detect and monitor vital signs that can indicate early-stage COVID-19 symptoms. The data, including pulse, heart rate variability and respiratory rate, are all measured remotely, without the need for touch. Vayyar's intelligent sensors can be placed in homes, hospitals, factories, airports, public transport, borders and more to provide real-time data, and by minimizing the need for face-to-face contact, reduce the risk of exposure for both medical and non-medical personnel.

Vayyar is collaborating with MAFAT (Israel's Defense Research & Development Directorate) and Israel's Naval Medical Institute. Vayyar's sensors have been successfully installed and are monitoring personnel in real-time to help detect early signs of the COVID-19 virus. Separately, The Israel National Emergency Team has successfully completed a test in which two systems were adapted for Vayyar sensors to analyze remotely, the vital data of patients. Vayyar's sensors can work in any environmental condition, unaffected by line-of-sight, lighting or weather conditions and since they do not use cameras, personal privacy is always protected.

Yehud's [Vayyar Imaging](#) is a global leader in 4D radar imaging technology, providing affordable, highly advanced sensors to a wide variety of industries. With applications in the automotive, smart home, robotics, retail, RF testing and medical sectors, Vayyar's intelligent sensors can see through walls and objects, map environments, and track movements in real-time. Its state-of-the-art chip covers imaging and radar bands from 3-81Ghz, with up to 72 transceivers in each chip and an integrated high-performance DSP. Vayyar's multi-antenna sensor produces unprecedented levels of accuracy, enabling high-resolution 4D point-cloud images. (Vayyar Imaging 16.04)

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9.2. BUFFERZONE to Provide Zero-trust Virtual Container for Working From Home

BUFFERZONE Security announced the availability of BUFFERZONE WFH (Work From Home) package, allowing its customers to securely access corporate resources on all Windows PCs, including home Windows PCs. BUFFERZONE assumes that the home PC is not secure, not managed, and should not retain corporate data. It will not allow access to the content in the contained session from outside of the container, keeping corporate data safe. BUFFERZONE WFH secures corporate access on the Bring Your Own Computer (BYOC) by establishing a containerized and isolated environment, with trusted and managed policies and applications. BUFFERZONE maximizes user productivity with seamless, unrestricted access to information and applications, while empowering IT with a simple, lightweight, and cost-effective solution for up to thousands of endpoints within and beyond the corporate network and according to security best practices.

The BUFFERZONE agent is an advanced endpoint isolation solution for endpoint protection, including automatic containment for Safe Browsing Safe Bridging (CDR) and Safe Mail. Browsing sessions that access external, untrusted content such as unknown internet sites are kept in a virtual container, protecting trusted resources from any potential threats; email message and attachments from untrusted sources are similarly contained. The SafeBridge technology allows safe extraction from the container using CDR technologies, and advanced code analysis (static and dynamic) for files containing macros and executables.

Herzliya's [BUFFERZONE](#) endpoint security solutions protect enterprises from advanced threats including ransomware, zero-days, phishing scams and APTs. With cutting-edge containment, CDR - bridging and intelligence, BUFFERZONE gives employees seamless access to Internet applications, mail and removable storage – while keeping the enterprise safe. (BUFFERZONE 16.04)

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9.3. HP Indigo Selects Tower for Next-Generation High Resolution Industrial Presses

Tower Semiconductor announced the utilization of Tower Semiconductor's 180nm Power Management platform for HP Indigo's next-generation high-resolution industrial presses. The advanced process, manufactured in Company's 8" facility in Israel, offers high-end integration of multiple drivers in a single chip, as well as a smaller footprint, enabling the replacement of traditional opto-mechanical laser writing head with a single mix-signal solution. The new HP Indigo analog IC will provide cutting-edge presses resolution, higher than any other available commercial solution.

Tower Semiconductor's 180nm Power Management modular technology platform offers advanced performance, efficiency, design and footprint optimization for a wide range of operating voltages. With its high levels of functional integration including: wide range of memories, high density 1.8V and 5V libraries and advance power LDMOS, this platform is highly suitable for a variety of market and end applications such as: mobile, wearables, industrial and automotive. In addition, its state-of-the-art PDK (TS18PM) enables the option to reuse circuits with different isolation schemes and LDMOS types, allowing an efficient, time and cost saving design cycle supporting fast time to market.

Migdal HaEmek's [Tower Semiconductor](#) provides technology and manufacturing platforms for integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, mobile, infrastructure, medical and aerospace and defense. Tower Semiconductor's focuses on creating positive and sustainable impact on the world through long term partnerships and its advanced and innovative analog technology offering, comprised of a broad range of customizable process platforms such as SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, non-imaging sensors, integrated power management (BCD and 700V), and MEMS. (Tower Semiconductor 23.04)

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9.4. Tufin Adds SecureCloud to Its Orchestration Suite

A major new addition to the Tufin Orchestration Suite, Tufin SecureCloud is a security policy automation service that provides the real-time visibility and control needed to ensure the security and compliance of hybrid cloud environments. Tufin SecureCloud maximizes agility and security with automated security policy orchestration to manage network complexity and automate security policy changes. SecureCloud ensures continuous compliance and enables Zero Trust and the acceleration of cloud adoption and digital transformation – without compromising business speed or agility.

Enterprises select the company's Tufin Orchestration Suite to increase agility in the face of ever-changing business demands while maintaining a robust security posture. The Suite reduces the attack surface and meets the need for greater visibility into secure and reliable application connectivity. With over 2,000 customers since its inception, Tufin's network security automation enables enterprises to implement changes in minutes instead of days, while improving their security posture and business agility.

Tel Aviv's [Tufin](#) simplifies management of some of the largest, most complex networks in the world, consisting of thousands of firewall and network devices and emerging hybrid cloud infrastructures. (Tufin 24.04)

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9.5. env0 Introduces Self-Service Cloud Management Platform

env0 introduced the public beta of the env0 platform, the first cloud management platform built to enable self-service with complete governance and cost control in AWS, Azure and Google Cloud Platform. env0 also announced \$3.3 million in initial funding co-led by Boldstart Ventures and Grove Ventures, with

participation from angel investors including Guy Podjarny of Snyk. env0 will use its initial funding to accelerate the product's general availability, and establish a Silicon Valley based headquarters.

As companies of all sizes move into the cloud, monolithic software suites have grown into vast ecosystems of cloud native solutions and microservices. This has put an increasing strain on finite infrastructure resources and the developers responsible for provisioning them for application and operations teams. Although IaC frameworks solve some of these problems, managed cloud environments inevitably create new bottlenecks that decrease the efficiency of CI/CD pipelines. env0 overcomes these bottlenecks by shifting testing, developer, and production workloads into standalone, ephemeral environments.

Tel Aviv's [env0](#) is the first self-service infrastructure management platform built for today's infrastructure-as-code (IaC) architecture using predefined security and cost policies. Designed to combine governance and cost control with self-service environment management for any IaC deployment, env0 offers self-service for the entire team while maintaining governance across all clouds. (env0 21.04)

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9.6. monogoto and 10T Tech launch monogoto eSIM Service

monogoto and 10T Tech Limited, an eSIM Solutions company based in Hong Kong, announced the launch of Israel's first roaming-focused digital eSIM service using 10T Tech's eSIM Cloud Solution. This advanced mobile telecoms service allows owners to sign up to monogoto's international roaming mobile plans by purchasing a monogoto QR code from multiple channels. eSIM's (embedded SIM's) are dramatically changing the nature of consumer and IoT connectivity forever, enabling devices to have out-of-the-box network connectivity without having to purchase a physical SIM card separately. Users can simply turn on their devices and download the mobile plan of their choosing.

Tel Aviv's [monogoto](#) is a secure cellular core as-a-service, enabling enterprises, manufacturers and IoT startups with secure cellular connectivity solutions for IoT/M2M use cases. monogoto is connected to multiple operators allowing network survivability and service resiliency, based on multi-network (local and global) coverage. monogoto combines this offering with a Private LTE as-a-service on CBRS or any other band. This allows customers to build their own network alongside, with the possibility of interconnecting to multiple MNOs all from the same SIM card, using the same mobile core. (10T Tech 26.04)

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9.7. Union Pacific Uses RADWIN to Backhaul Hundreds of Video Surveillance Cameras

RADWIN announced that Union Pacific Railroad has deployed RADWIN's portfolio of Point-to-Point and Point-to-MultiPoint solutions in the western US to monitor and manage hundreds of remote railyards. Union Pacific uses RADWIN by implementing high throughput video surveillance networks and connecting remote railyard buildings.

Tel Aviv's [RADWIN](#) is the global provider of broadband wireless solutions that deliver blazing fast broadband with unparalleled reliability. Incorporating cutting-edge technologies, RADWIN's solutions are equipped with powerful OSS tools that support all operational aspects of the network lifecycle and enable operation in the toughest conditions including interference and nLOS. Deployed in over 170 countries, RADWIN's solutions power applications including backhaul, access, private network connectivity and broadband on the move for rail and metro trains. (RADWIN 23.04)

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9.8. Sapiens Announces a New Version of its Insurance Underwriting Solution

Sapiens International Corporation announced a new version of Sapiens UnderwritingPro for Life & Annuities. Version 11, which is available now over the cloud and provides the latest set of product

advancements, including a new reinsurance interface to facilitate data transmission and enhanced underwriter notes capabilities. UnderwritingPro is an award-winning, web-based new business and automated underwriting system that drives straight-through automation, streamlining the entire new business process from application receipt through coverage approval, providing an efficient and consistent automated underwriting solution.

Sapiens UnderwritingPro for Life & Annuities is a web-based solution for automated underwriting and new business case management that is part of Sapiens CoreSuite for Life & Annuities. It speeds new business processes for insurance carriers and their channels, offering an intuitive user interface with critical updates and task assignments provided on a real-time dashboard. Sapiens UnderwritingPro enables underwriters and case managers to work on multiple cases simultaneously.

Holon's [Sapiens International Corporation](#) empowers insurers to succeed in an evolving industry. The company offers digital software platforms, solutions and services for the property and casualty, life, pension and annuity, reinsurance, financial and compliance, workers' compensation and financial markets. With more than 35 years of experience delivering to over 500 organizations globally, Sapiens has a proven ability to satisfy customers' core, data and digital requirements. (Sapiens 23.04)

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9.9. Wave Guard Reveals COVID-19 Exposures with Contact-Tracing Technology

Wave Guard has created an algorithm-based solution that allows government healthcare agencies to trace contacts of COVID-19-infected individuals accurately, effectively, and in real time. This is critical to the long-term fight against the pandemic, delivering the ability to responsibly lift quarantine, reopen global economies and fight the next wave of coronavirus outbreak.

Unlike existing apps and the technology under development by other companies, Wave Guard's technology tracks anyone with any kind of cellphone (not just smartphones), with no downloads required, allowing national, state, regional, and local health department officials to pinpoint diagnosed individuals via algorithmic analyses of mobile data, understanding their routes and with whom they met.

When using Wave Guard's solution, once an infected individual has been diagnosed, that person's previous path can be tracked using Wave Guard, allowing health officials to contact individuals who were in the vicinity by SMS. This cuts down on the manpower required to trace each interaction. The system can be used to create heat maps to warn health officials about vulnerable neighborhoods even as the virus begins to spread.

Established in 2009, Herzliya's [Wave Guard](#) is the expert in turning cellular networks big data into real-time, valuable insights for various customers and markets, including mobile operators, emergency services personnel, enterprises, and environmental organizations. The patented technology serves a global customer base, working with more than 100 million subscribers worldwide. (Wave Guard 27.04)

10. ISRAEL ECONOMIC STATISTICS

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10.1. Coronavirus Costs Israel's Business Sector's Profits Some \$12 Billion

The coronavirus outbreak has a significant toll on the Israeli private sector, costing some \$12 billion of its projected annual revenue, according to data published by the Federation of Israeli Chambers of Commerce on 16 April. According to the report, the industries hit hardest by the outbreak are the tourism and hospitality industries and non-food retail, which have all seen a staggering 80% drop in revenues.

The government had halted nearly all economic activity starting in early March. The shuttering of businesses ordered as part of the efforts to curb the spread of the virus has slowed economic activity to

only 15%, forcing many private-sector businesses to either fire employees or place them on unpaid leave. Since the measures were announced, unemployment has risen to an unprecedented 26% – compared to 4% prior to the outbreak – with some 1,093,645 Israelis filing for unemployment benefits.

An analysis provided by the federation broke unemployment rates in the business sector 30% of the retail sector, 14% of the hospitality sector and another 30% of service-related businesses.

The International Monetary Fund said on 16 April that the Israeli economy is could lose 6.3% of its GDP in 2020 over the coronavirus outbreak. This was a gloomier prediction than the one issued by the Bank of Israel earlier that month, which said that the pandemic is likely cost 5.3% of the GDP in 2020. (Israel Hayom 19.04)

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10.2. Ministry of Finance Considers Israel's Deficit Ratio at Third Highest in OECD

Israel's fiscal deficit as a proportion of GDP will climb to 11% this year, placing it third among the OECD countries, after the US and Canada, according to an updated forecast released by the Ministry of Finance's Chief Economist. The ratio of Israel's government debt to GDP will nevertheless remain below the OECD average, since Israel entered the economic crisis precipitated by the coronavirus pandemic with a debt/GDP ratio at an all-time low.

The Ministry of Finance expects the Israeli economy to contract by 5.4%, a projection similar to that of the Bank of Israel, which forecast a 5.3% contraction. This forecast is still however predicated on an optimistic scenario of a rapid V-shaped recovery from the downturn, as happened in the global economy in 2009, starting from the second half of this year. The Ministry of Finance also has a more pessimistic forecast based on the assumption of a slow, U-shaped recovery taking years, as happened after the dot.com market collapse and the second intifada at the beginning of the 2000s. In this scenario, the Israeli economy will contract by 6.5% this year.

On unemployment this year, the Ministry of Finance document says, that under the scenarios presented, the average rate will be 13-14% including furloughed workers, or 8-9% according to the definition of the Central Bureau of Statistics (which does not count furloughed workers as unemployed). (MoF 26.04)

11. IN DEPTH

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11.1. ISRAEL: Moody's Changes Israel's Outlook to Stable from Positive, Affirms A1 Ratings

On 24 April 2020, [Moody's Investors Service](#) changed the outlook on the Government of Israel's A1 ratings to stable from positive. Concurrently, Moody's affirmed Israel's long-term issuer and senior unsecured ratings at A1, senior unsecured MTN program and shelf ratings at (P)A1 and backed senior unsecured rating at Aaa. The change in the outlook to stable from positive was driven by the following factors:

(1) Israel's impaired fiscal outlook given the recent deterioration in the budget deficit, which is amplified by the coronavirus outbreak; and

(2) Israel's weakening fiscal policy effectiveness, driven in part by a more polarized political environment.

The affirmation of the A1 ratings reflects Israel's robust medium term growth potential, strong external position and highly credible institutions, which Moody's expects will help its credit profile to withstand the impact of the severe but temporary crisis arising from the coronavirus outbreak. These strengths are balanced against a combination of longer-term demographic challenges and persistent geopolitical risks.

The Aaa rating on the backed senior unsecured bonds issued by the government was also affirmed. That rating reflects the debt guarantee provided by the United States Government (Aaa, stable) on these instruments, and the loan guarantee program is currently authorized until end September 2023.

Israel's Aa3/P-1 country ceilings for foreign currency bonds, A1/P-1 country ceilings for foreign currency bank deposits and Aa3 country ceilings for domestic currency bonds and bank deposits remain unchanged.

Ratings Rationale

Rationale for the Change in the Outlook to Stable from Positive

First Driver: Impaired Fiscal Outlook Given Deterioration in Budget Deficit

The first driver of the decision to stabilize the outlook on the A1 rating is Moody's conclusion that Israel's fiscal performance has deteriorated since the time of assigning the positive outlook in July 2018, and that the fiscal outlook will be further impaired by the impact of the coronavirus outbreak.

Israel's fiscal performance has materially worsened over the last two years, with the general government budget deficit reaching an estimated 4% of GDP last year, which compares with an average deficit of just over 1% between 2015 and 2017 and Moody's expectation at the time of assigning the positive outlook that the budget deficit would likely remain at or below 3% of GDP.

In particular, last year's fiscal target of a 2.9% of GDP deficit at the central government level was missed by a large margin as civilian expenditures were higher than budgeted at the same time as government revenues have been impacted by weak growth in indirect taxes and fewer one-off revenue windfalls relative to recent years. As a result, Israel's structural budget balance has materially worsened over the last two years, reaching a deficit of 4.5% of GDP in 2019, according to the Bank of Israel.

Furthermore, the current crisis prompted by the coronavirus outbreak will serve to amplify Israel's already worsening fiscal trajectory. Moody's expected a renewed rise in the government debt to GDP ratio even before the crisis and, given the sizeable fiscal response package and the expected economic contraction, Moody's forecasts the government debt burden to reach around 72% of GDP this year, which is around 12pp higher than the end of 2019.

A strong rebound in economic activity next year, together with only modest fiscal consolidation efforts in line with the evidence of recent years, will help reduce the budget deficit to 5.5% of GDP in 2021, from a deficit of 9% in 2020. That said, Moody's forecasts that Israel's government debt burden will remain elevated in the coming years, reducing the fiscal space to absorb future shocks. Indeed, while there remains a high degree of uncertainty around these forecasts given the evolving nature of the current crisis and policy response, Moody's expects that, even under optimistic scenarios, it would still take a number of years for the government debt burden to return closer to 2019 levels. Nevertheless, Israel's debt burden would still remain moderate relative to many other advanced economies, while Israel's overall fiscal strength will remain supported by its improved debt affordability.

Second Driver: Weakening Fiscal Policy Effectiveness, Driven in Part by a More Polarized Political Environment

The second driver of the decision to stabilize the outlook is Moody's conclusion that Israel's fiscal policy effectiveness, which has been negatively impacted by a more polarized political landscape, is weaker than was expected at the time of assigning the positive outlook in July 2018. Moody's considers fiscal policy effectiveness a Governance consideration under its ESG framework.

An increasingly polarized domestic political environment has resulted in an unprecedented three general elections in the space of a year, leading to a series of transitional governments since December 2018 and in turn delaying the passing of the 2020 budget. As a result, caretaker governments have lacked the

authority to adopt material fiscal adjustment measures, even as Israel's structural deficit markedly worsened over the last two years amid weaker than expected revenue growth and above budget expenditure.

At the same time, Israel's fiscal rules have proved less effective than expected in encouraging fiscal discipline, with longstanding issues, such as largely reactive policy making and frequent revisions to fiscal targets, magnified by the political stalemate.

Moody's expects the domestic political environment in Israel will remain more polarized than in the past and, while a major shift in policy direction remains unlikely, is likely to continue to pose a headwind to prompt and decisive fiscal policy.

The recent agreement on the formation of a "national emergency" coalition government reduces the immediate risk of fourth elections, and paves the way for the passing of a budget to support the government's policy response to the coronavirus outbreak which had been slowed by the political stalemate. That said, Moody's expects the elaboration of an effective post-crisis fiscal strategy that would seek to bring the government debt burden quickly back to 2019 levels will be challenging given the likely impact of a more fractured political environment on policymaking. For example, there remains a significant risk of renewed political stalemate, particularly if the new government does not last beyond its initial narrow mandate to focus on the current crisis over the next six months.

As a result, the outlook period has revealed that Israel's fiscal policy framework does not demonstrate the degree of resilience to domestic political developments which would be consistent with the characteristics of an Aa-rated sovereign.

Rationale for the Affirmation of the Rating at A1

The affirmation of the A1 ratings reflects Israel's robust medium term growth potential, strong external position and highly credible institutions, which are balanced against a combination of longer-term demographic challenges and persistent geopolitical risks.

Israel's economy has demonstrated resilience to a range of domestic and external shocks, supported by its highly competitive tech sector which benefits from the country's strong capacity for innovation, while the start of production from the Leviathan gas fields at the end of 2019 will, over time, further enhance the country's already favorable external position. Furthermore, the country's well-developed macroeconomic policy environment and the central bank's strong record in maintaining macroeconomic and financial stability has allowed the economy to recover quickly after previous crises.

As such, while Moody's forecasts the coronavirus outbreak to lead to a contraction in GDP growth of around 4% this year, the economy's underlying strengths position it to recover strongly from the crisis, and Moody's expects Israel's medium term growth potential will remain robust at around 3.5%. That said, long-term structural changes in the labor market, including the increasing share of the population expected to come from those groups who are underrepresented in the labor force for cultural reasons, will pose a headwind to achieving higher potential growth.

While government debt will rise, Israel's debt affordability has strengthened amid reduced funding costs in recent years given its deep and highly developed domestic market and exceptional access to external funding. Finally, the affirmation of the A1 rating also reflects that Israel will continue to face persistent geopolitical event risks inherent in the Middle East which can impact on the economy and public finances.

Environmental, Social & Governance Considerations

Moody's takes account of the impact of environmental (E), social (S) and governance (G) factors when assessing sovereign issuers' economic, institutional and fiscal strength and their susceptibility to event risk. In the case of Israel, the materiality of ESG to the credit profile is as follows.

Environmental considerations currently exert limited impact on Israel's credit profile. Although Israel is exposed to environmental risk through rising temperatures, drought episodes and water scarcity given its geographical location in a semiarid climate zone, the authorities have taken a number of successful steps to address these risks, including through seawater desalination and wastewater recycling.

Social factors are material to Israel's credit profile. Moody's regards the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety, and that the outbreak will have an adverse economic and fiscal impact for Israel. The country also faces a shifting demographic composition and the challenge of maintaining its competitive advantage in human capital because of large educational and productivity gaps among the country's various population groups, which could limit further improvements in Israel's growth potential over the medium to long term.

In terms of governance, Israel's institutions remain strong, as measured by the Worldwide Governance Indicators. Moody's considers policy effectiveness a Governance consideration under its ESG framework and the weakening in Israel's fiscal policy effectiveness is a key driver of the decision to stabilize the outlook. Furthermore, Israeli leaders have been at the center of a number of scandals involving bribery and abuse of power, eroding public confidence in the country's politicians. In addition, politicians have increasingly sought to challenge the country's judicial system which may, over time, reduce the effectiveness of the courts to act as a check on the exercise of government power.

Factors That Could Lead to an Upgrade or Downgrade of the Ratings

While unlikely in light of the economic and fiscal implications of the coronavirus outbreak, upward pressure on the rating could develop from a material improvement in the shock absorption capacity of government finances. This would likely entail not only a prompt restoration of public finances following the impact of the coronavirus outbreak, but also increased confidence that future governments would be willing and able to return government debt to its historic downward trend. Furthermore, continued healthy rates of medium-term economic growth and current account surpluses in the face of persistent geopolitical tensions would also likely be required to support an upward move in the credit rating.

Negative rating pressure could develop if the current shock arising from the coronavirus outbreak were to result in a prolonged deterioration in economic potential and/or public finances, leading to a continued upward trend in government indebtedness. This could arise from another prolonged period without a formal government in place, or from the formation of a coalition unable to advance policy measures to offset such a deterioration, signaling a marked further weakening in Israel's institutional capacity. Downward pressure on the rating could also develop if geopolitical developments materially disrupted Israel's economic stability, by deterring investment and likely requiring increased defense spending, with negative implications for the country's external position and fiscal accounts. Furthermore, an escalation of tensions with Palestinians which leads to increased international isolation, hurting Israel's export orientated economy, would also place downward pressure on the rating. (Moody's 24.04)

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11.2. JORDAN: IMF Executive Board Concludes 2020 Article IV Consultation

On 16 April, the Executive Board of the [International Monetary Fund \(IMF\)](#) concluded the Article IV consultation with Jordan.

The following assessments and projections predate the ongoing COVID-19 outbreak; the near-term outlook is subject to significant risks stemming from the outbreak.

Jordan has made progress in reforming its economy since the 2017 Article IV Consultation, but pressing challenges remain. Growth has averaged only 2% since 2016. While the pickup in tourism and exports gave some momentum to economic activity in 2019, recent progress in improving the business climate has not yet translated into higher domestic or foreign investment. Per capita income has continued to decline

and was in 2019 about 10% below its 2010 level. Inflation remained broadly contained, rising to 3.5% during 2017–18, reflecting primarily the impact of fiscal measures, but decreasing to about 0.5% in 2019, due to subdued food and imports prices, including fuel. Labor market conditions have remained challenging, particularly for youth and women, with the unemployment rate (excluding foreign labor) on an upward trend, reaching 19% in 2019, up from 18.5% in 2017. The current account deficit (excluding grants) has narrowed markedly since 2017, due to a strong recovery in exports and tourism and to lower imports, from an average of 12% of GDP during 2017–18 to a projected 6% in 2019. The Central Bank of Jordan (CBJ) has continued adjusting its policy interest rate in line with the United States. While reserves buffers were impacted by the uncertainty arising from protests against a draft income-tax law in mid-2018, improved conditions in the FX market allowed to partly recoup past reserve losses in 2019; reserve buffers remain at comfortable levels at 7 months of imports. Significant progress was achieved in consolidating public sector finances during 2016–17, but it proved difficult to maintain during 2018–19, reflecting tax administration weaknesses, some policy reversals, and delays in implementation of fiscal measures.

The outlook remains challenging. Growth is projected at 2.1% in 2020 and it is expected to gradually increase to 3.3% over the medium term. The baseline scenario reflects fiscal consolidation of about 4% of GDP during 2020–24 - to ensure placing public debt on a downward path - and a strengthened growth agenda, underpinned by reduced business costs, particularly on electricity and labor, and measures to increase employment for youth and women, while continuing enhancing Jordan's social safety net. Inflation is expected to gradually reach 2.5% over the medium term. The current account deficit (excluding grants) is projected to continue narrowing to about 5% of GDP over the medium term, with reserves buffers expected to remain adequate at 8 months of imports.

Executive Board Assessment

Executive Directors agreed with the thrust of the staff appraisal. They commended the authorities for preserving macroeconomic stability and improving the business climate, amid challenging external conditions. However, Directors noted the disappointing growth outcomes, high unemployment, rising public debt and significant challenges related to the COVID-19 pandemic and large population of Syrian refugees.

Directors supported the new financing arrangement with the Fund and its focus on fiscal consolidation and growth promoting reforms, but noted that continued expansion of the COVID-19 outbreak could put the program objectives at risk. Directors welcomed the authorities' early measures to mitigate the impact of the outbreak and many saw scope to adjust the program modalities going forward, in light of the rapidly changing circumstances. They called for greater donor support to help Jordan achieve the program objectives and protect the refugees.

Directors encouraged steady fiscal consolidation efforts, using both revenue and expenditure measures, to bring public debt on a downward path. They agreed that the authorities' policy actions should focus on broadening the tax base, mitigating fiscal pressures from the state-owned electricity and water sectors, and improving public financial management, while ensuring better targeted social safety nets to protect the most vulnerable. A number of Directors expressed concerns about the imposition of a customs service fee on imports from the EU and called for considering other measures to raise revenue.

Directors saw monetary policy appropriately focused on supporting the peg and the economy. They welcomed the overall soundness of the Jordan's financial sector, but encouraged continued efforts to preserve its stability and promote financial inclusion.

Directors supported the authorities' ambitious structural agenda aimed at removing impediments to growth and reducing unemployment, particularly among women and youth. They encouraged efforts to improve the business environment and enhance competitiveness, including through the reform of the energy sector. Directors stressed that improvements in economic governance will be essential to enhance public sector transparency and accountability.

It is expected that the next Article IV consultation with Jordan will be held in accordance with the Executive Board decision on consultation cycles for members with Fund arrangements. (IMF 16.04)

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11.3. JORDAN: Jordan Eases Lockdown, Focuses On Opening Economy

Osama Al Sharif posted in [Al-Monitor](#) on 21 April that Jordan has ended its lockdown in Aqaba while keeping certain restrictions in place and eases curfews elsewhere as the region's first country to enforce a nationwide lockdown now seeks to gradually reopen its economy.

Just as Jordan was among the first countries to react early to the novel coronavirus pandemic by imposing a nationwide lockdown March 18 and enforcing a strict curfew, it is now the first country in the region to ease restrictions and gradually open up its economy.

On April 19, the government ended the lockdown in the southern city of Aqaba but kept strict health precautions in place. The port city of more than 100,000 inhabitants, where no active cases have been recorded for over a month, has been isolated from the rest of the kingdom. The minister of state for media and communications, Amjad Al-Adaileh, also announced that day that the government will ease curfews in Karak, Tafileh and Maan governorates as of 22 April, implementing procedures similar to those in Aqaba.

Jordan's early response to the pandemic set it apart from neighboring countries such as Saudi Arabia, Iraq and Israel, where the numbers of cases are now in the thousands. King Abdullah told the US news program "Face the Nation" on 19 April, "We acted quite early on, and that helped us flatten the curve quite, quite well," according to CBS News. "It seems that we've got things under control and within the capabilities of our medical and health establishments," he added. The king has been heading meetings with top officials through the National Center for Security and Crisis Management on an almost daily basis.

By 20 April, Jordan's total number of confirmed cases had reached 425, with seven fatalities. The kingdom had shut its borders, imposed a lockdown and enforced measures such as social distancing and quarantine for suspected cases. Where there have been coronavirus clusters, such as in the northern governorate of Irbid, the government was quick to isolate the area and impose a full curfew.

But even as the number of new cases has generally been decreasing by the day, the government appears to be ready to maintain a partial curfew in major population centers, such as Amman, during the holy month of Ramadan. The government, which enacted a defense law on 19 March to enable it to enforce strict measures and override existing laws, said on 15 April that it was easing up the lockdown to allow some businesses to reopen under certain conditions while observing health precautions.

On 17 April, Prime Minister Omar Razzaz issued Defense Order No. 9, which outlines a program for protecting businesses, freelance workers and daily wage workers and aims to benefit more than 400,000 households. The program covers Jordanians, Gazans and children of Jordanian women married to non-Jordanians.

The government had adopted a number of economic measures to enable public and private sector employees to receive a certain percentage of their monthly wages while working from home or reporting for work. Under the defense order, the government decided to suspend all increases and allowances for public sector employees until next year, while deducting 10% from salaries exceeding JOD 2,000 (\$2,800) as a contribution to the treasury. Previous defense orders were criticized by the private sector for failing to provide businesses especially hurt by the shutdown with help from the government.

Business analyst and commentator Salamah al-Dir'awi wrote in Al-Ghad daily on 18 April that the government had finally corrected its course by stepping in to help the private sector after making wrong decisions earlier. "The role of the Social Security Corporation at this stage is vital in providing social protection to families that have lost all income and that should be the government's top priority now," he

said. "Failing to protect these families will have dire social and security consequences for the country," he added.

But Dir'awi concluded that the government is unable to bear the burden on its own. "The treasury does not have the resources to keep the government running as it faces a \$2 billion deficit as result of the crisis," he said. He cautioned that the government will have a tough time borrowing money externally and will have to rely on local loans.

Jordanians believe that while the government's measures have been successful in containing the pandemic, the country will be facing an unprecedented economic backlash in the coming weeks. But on 19 April, Adaileh dispelled rumors that the government will not be able to pay this month's salaries. He told a local news portal that the government will be able to meet its financial obligations for the coming two years. He added that the Central Bank's foreign reserves are estimated at more than \$19 billion, which reflects monetary stability.

But such assurances still seem unlikely to placate Jordanians. For one, many fear that the government's reliance on the Social Security Corporation (SSC) to compensate non-insured Jordanians threatens millions of retirees. "Why should the insured and business owners that have exclusively funded the SSC since its establishment subsidize the non-insured or the business owners that evaded?" business analyst Jawad Abbasi told Al-Monitor. "The government should bear this cost, not the SSC, and it can do that by reducing unnecessary expenses and reviewing its huge pension cost that has plenty of wasteful spending. If it wants to delve into SSC funds, it should borrow these funds at market rates." he added.

The International Monetary Fund (IMF) estimated, in a report published on 15 April, that Jordan's economy will shrink by 3.7% as a result of the COVID-19 crisis; its gross domestic product grew 2% last year. The IMF also estimated that the economy will grow 3.7% in 2021.

The Jordan Times quoted the IMF's chief of mission to Jordan, Chris Jarvis, on 17 April as saying the fund was ready to provide Jordan with support through its rapid financing instrument. Jarvis expressed confidence in Jordan's ability to recover, as the government "has already done a lot in terms of structural reforms," according to the paper. Minister of Finance Mohamad al-Ississ was quoted in the same story as saying the spread of the coronavirus will not stop Jordan's economic reform process but rather will expedite it. He stressed that the kingdom will continue to service its debt and honor its external obligations.

Osama Al Sharif is a veteran journalist and political commentator based in Amman who specializes in Middle East issues. (Al-Monitor 21.04)

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11.4. ARABIAN GULF: Migrant Workers at the Epicenter of Public Health Crisis

On 24 April, Eman Alhussein posted at the [Arab Gulf States Institute in Washington](#) that the coronavirus, along with the economic crisis due to falling oil prices, is having a direct impact on businesses in the Gulf, including migrant labor, the bulk of the work force.

The coronavirus has highlighted the complex situation facing migrant workers in the Gulf. As the virus continues to spread in the region, foreign workers have been hit hardest. With falling oil prices and continuous lockdowns and health hazards due to the pandemic, many jobs will likely be shed. As a result, the region's high reliance on migrant workers is undergoing a profound transition, and a growing divide has emerged between these workers and local populations.

Since the oil boom, migrant workers have been providing various services to Gulf citizens, from maintenance and construction to filling grocery bags and delivering goods. This need created an influx of migrant workers who constitute two-thirds of the workforce in the Gulf, with low-wage workers occupying

the majority of these jobs. Even though most come to the Gulf countries legally, many of them end up working illegally as “day workers,” making a living from various jobs and paying a monthly or annual fee to their sponsors. Such arrangements have become widespread in the region, creating the phenomenon of *tujjar altashirat* (visa merchants).

For decades, visa merchants have been the subject of much discussion in newspapers in many Gulf countries, with Kuwait’s Al-Qabas writing about the issue as early as 1989. Throughout the Gulf, influential figures and networks have been part of this phenomenon. Consequently, attempts at tackling the situation of migrant workers over the years have not resulted in much change. The problem continues to present a challenge elsewhere in the Gulf with a Saudi minister of labor threatening visa merchants that they would be “thrown in jail.” In Bahrain, the Flexi Permits system was introduced in 2017 to improve the situation of day workers and to curb the abuses of visa merchants. However, many Bahrainis have criticized the system, arguing that it has allowed migrant workers to compete with locals by providing services at a lower price while making it difficult for small-sized businesses to survive or nationalize jobs.

As the coronavirus spreads in the Gulf, the high number of infections among migrant workers continues to rise. The daily coronavirus briefings across the Gulf region announce new cases among both foreigners and locals. The distinction is perhaps significant for statistical analysis and might also ease fears among locals. However, it also feeds the growing distrust of migrant workers. Violations of the curfew among workers have been circulating on social media in Kuwait and Saudi Arabia. Moreover, videos showcasing poor hygienic standards has further fueled the anxiety and triggered the Saudi Ministry of Commerce to proactively demonstrate its efforts to clamp down on violations.

In Kuwait, the finance minister announced that certain grocery stores in a neighborhood with a high number of foreign workers would be reserved for nationals only. Such separations have become one of the first signs of the divide between the migrant community and locals. Some grocery stores stopped migrant workers from packing goods for customers, as they had been replaced by Kuwaiti volunteers. Many day workers were confined to their accommodations and unable to make a living, which made their situation especially dire under the curfew.

In Oman, the high number of infections among migrant workers, especially in locales such as the port area Mutrah in the capital Muscat, has created an atmosphere of apprehension. Migrant workers who are unable to work due to the curfew are seen as a potential security threat that must be tackled by reducing their numbers. Others have compared the influx of migrant workers to a “cancer,” arguing that the lack of strict government regulations is to blame. As a result, the Omani health minister has urged citizens not to dwell on the legal side of the crisis, explaining that health services will be provided to all.

Qatar and the UAE are the most dependent on migrant workers, having the highest numbers per capita in the region. In both countries, foreign labor plays an important role in large development projects and events on the horizon, including the World Cup 2022 and Expo Dubai (postponed until 2021 due to the coronavirus). In Qatar, migrant workers live in an industrial sector that has been largely sealed off because of the high number of coronavirus cases among the workers. On the other hand, concerns related to migrant workers outside of the construction sector who are in direct contact with the Qatari population, have increased. As in the rest of the Gulf, calls to crack down on violations by workers and to hold sponsors accountable have risen.

In Saudi Arabia, the majority of infections are among migrant workers, and schools are being used to provide temporary accommodations for them. A particular challenge has arisen in the western parts of the country, due in part to its historic role as an entry point for pilgrims from around the world. As a result, the urban centers have long been melting pots of diverse communities, some of whose inhabitants lack official documents. Mecca is currently the epicenter of the pandemic in the kingdom. In Jeddah and the holy cities, neighborhoods with high numbers of migrants were the first to be placed under curfew. A video of the poor living conditions in Al-Nakkasah in Mecca was widely circulated. Later, the neighborhood was sealed off by the National Guard and a curfew was put in place.

The debate regarding migrant workers has also fed into the continuing discussion on redefining the responsibility of businesses during the pandemic. Since its beginning, businesses and merchants have come under intense scrutiny from the public for not helping the government during the crisis. Now, the issue of migrant workers is redirecting the blame once again to businesses and merchants. In Saudi Arabia, criticism is aimed at the employers and sponsors deemed responsible for the deteriorating conditions of migrant workers. Some argue that the state should not convert schools into accommodations and that the sponsors should take full responsibility for their workers.

Experts from the Gulf have also taken an active role in examining the extent of the migrant crisis on the region's economic and social structure. Economist Omar Alshehabi argues that Gulf states do not only need to change the sponsorship system to better manage and organize the flow of labor in the Gulf, but must also play an active role in establishing a central state institution to monitor the situation of expat laborers instead of leaving them dependent on their sponsors and employers. Moreover, he also suggests that Gulf states need to decide first what kind of labor market they want, whether it is dependent on migrant workers, or if it increasingly relies on nationals and permanent residents. On both social and traditional media, debates on how to make the private sector more appealing to locals – a longstanding challenge in the Gulf – have reemerged in light of the coronavirus crisis.

More specifically to Kuwait, assistant professor Abdulaziz Al-Saqabi presented an initiative to modify the country's demographics and suggested several steps to tackle the migrant situation. These include introducing a quota, building "labor cities" (*mudun umaliyah*), and creating technological solutions to lower the number of migrant workers. Al-Saqabi suggests adopting the UAE's labor cities and the Saudi system *Ejar* that links rental accommodations with the details of its residents on one website. The Saudi authorities are now using this system to keep track of migrant workers and have given sponsors until the end of April to complete the registration.

For decades migrant workers have constituted the backbone of Gulf economic and social structures. As a result, the coronavirus, along with the economic crisis due to falling oil prices, will have a direct impact on businesses in the Gulf, including migrant labor. The crisis has also unleashed criticism of decades-old "bad habits" in the Gulf region that depend on a high number of migrant workers. Many have called for changing the lifestyle in the Gulf, including workers filling grocery bags and gas tanks, taking orders outside of restaurants, washing cars and making tea and coffee in offices. This transition will likely prove challenging since many in the Gulf will continue to depend on domestic labor providing convenience and comfort inside their private homes, even if the situation changes in the public sphere. Nevertheless, the pandemic can perhaps trigger a reevaluation, thus providing governments with not only challenges but also opportunities as they face the current crisis and address a long-standing problem.

Eman Alhussein is a non-resident fellow at the Arab Gulf States Institute in Washington. (AGSIW 24.04)

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11.5. UAE: Dubai's Economy Most Exposed Among Emirates to Coronavirus Impact

The coronavirus outbreak and the pandemic's indirect impact on global growth and trade pose a significant shock to economic growth in the United Arab Emirates (Aa2 stable), [Moody's Investors Service](#) said in a report. The negative growth and fiscal implications are most acute in Dubai due to its reliance on the tourism and transportation sectors.

Growth in the UAE's non-oil economy had been cooling even prior to the outbreak due to a range of cyclical and structural factors, which are likely to be aggravated by the coronavirus outbreak. The pandemic also coincides with a significant drop in oil prices, which will transmit through to the non-oil economy through confidence and foreign investment channels.

"While we expect the majority of sovereigns that we rate to suffer a severe GDP contraction from the coronavirus outbreak, the UAE is particularly exposed to the economic implications of containment actions

and the broader global economic shock," said Thaddeus Best, a Moody's Analyst and the report's author. "Travel restrictions, social distancing measures, and the closure of schools, factories and businesses as well as a fall in global demand, pose substantial challenges to non-oil sectors like tourism, trade and real estate which account for over a third of the UAE's total GDP and just under half of non-oil GDP, and an even greater share of Dubai's economy."

While stimulus packages will help to soften the blow to the UAE's economy, the majority of the support has been provided in the form of monetary stimulus rather than fiscal stimulus, which means that the impact will depend on banks fully utilizing the additional liquidity that the central bank has provided.

Dubai's government-related entity (GRE) debt remains most exposed to macro risks because of its holdings in the real estate, transportation and tourism sectors. In contrast, Abu Dhabi's GRE exposure is primarily concentrated in the hydrocarbon sectors, which face challenges from lower oil prices but have strong starting financial positions. (Moody's 28.04)

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11.6. EGYPT: Challenges to Egypt from the Coronavirus Pandemic

Ofir Winter and Tzvi Lev posted in [INSS Insight](#) on 22 April that the coronavirus crisis presents Egypt with a host of challenges, given its large, densely-packed population, an economy exposed to global shockwaves, and a fragile health system. As it continues, the crisis will likely exacerbate Egypt's financial struggles and endanger its political stability. Those most vulnerable to the virus' economic effects are the millions of irregular workers who have no social benefits and who are likely to slide quickly into unemployment and poverty. As such, the benchmark for the Egyptian government in dealing with the crisis is its ability to formulate a plan that balances between the need for social distancing to curb infection and the economic constraints that demand a return to routine as quickly as possible. During the pandemic, Israel can promote cooperation with Egypt on issues such as preventing the spread of the virus throughout the Gaza Strip, providing medical knowledge and equipment, and offering diplomatic assistance in the international arena.

The number of Egyptians infected with the coronavirus has been on the rise since early March 2020. According to the Egyptian Ministry of Health, as of 21 April there were 3490 confirmed infected, including 264 fatalities. However, a caveat is in order, given the low rate of testing; by the end of March about 25,000 had been tested, and since then testing has continued at a rate of about 2,000 per day. According to the World Health Organization (WHO), Egypt has a stockpile of about 200,000 tests, leading authorities to prioritize testing for those who have had contact with confirmed carriers and populations at risk. Egypt's younger population works in its favor, with about 93.3% of the population under the age of 60.

While the international media has cited estimates that the actual extent of COVID-19 is far higher than reported, the official message from Egypt – which is supported by the WHO – is that the outbreak is under control. Yet whatever the true state of affairs may be, there are concerns regarding the Egyptian health system's ability to cope with a large extra burden. Even in normal times, hospitals suffer from a lack of intensive care beds and ventilators, and substandard sanitary conditions make it difficult to protect medical staff and patients from the spread of the virus. Currently, Egypt has only 1.2 doctors for every 1,000 people, significantly fewer than the OECD average of 3.4 and the global average of 1.8. The shortage of sufficient medical personnel compounds the difficulty of preventing contagion in a population of 100 million people living in overcrowded conditions.

Medical Challenge, Political Opportunity

The Egyptian Ministry of Health has established a situation room to coordinate the response to the outbreak, as well as a call center to provide citizens with information. Dozens of hospitals throughout the country with over 15,000 beds have been designated for diagnosing and quarantining coronavirus patients. In addition, 1,000 ambulances have been allocated and medical sites equipped to receive thousands of cases.

Meanwhile, hospital physicians have been afforded better employment terms, with their numbers boosted by medical lecturers and students. An effort is also underway to promote local manufacture of 5,000 ventilators, to add to the existing 4,000.

Since mid-March, Egypt's strategy to reduce contagion has revolved around social distancing. Measures implemented include a nighttime curfew, shuttering entertainment centers and restaurants, a ban on smoking hookahs in public areas, the suspension of flights, quarantine of those returning from overseas, closure of schools and universities, a ban on prayers in mosques and churches, restrictions on governmental activity, promotion of working from home, reduced crowding on public transportation, bans on gatherings, and closure of sports and youth clubs. The regulations have led to a 35-50% decrease in traffic in public places, reflecting both the partial response by the public, and the government's decision to refrain for the moment from harsher steps that the Egyptian economy would be unable to withstand.

For the Egyptian government, the pandemic is also an opportunity to demonstrate leadership and control, and to prove the necessity of state authorities as the responsible address during a crisis. Leading the operation is the military, which has embarked on a campaign under the name: "The Egyptian Armed Forces – the Fortress and the Support," through which they perform a range of tasks, including: monitoring and maintaining border security, disinfecting roads and public buildings, operating military hospitals, assisting the police in maintaining public order and enforcing social distancing, preparing emergency stocks of food, and producing and supplying protective masks for free distribution to the population.

However, the challenge facing the government and the military goes beyond the faceless virus. The pandemic has already become intertwined with the public controversy raging in Egypt since June 2013 between the government and the Muslim Brotherhood: the national leadership is presented in official media outlets as the body that manages the medical and economic systems with the utmost efficiency and requisite responsibility. On the other hand, the Brotherhood is blamed and denounced as the source of rumors about increasing contagion rates in prisons, the army, and the upper echelons of the administration, in an attempt to undermine public trust in the government, encourage public disobedience of the guidelines, and ultimately push Egypt toward anarchy in an effort to return to power.

Economic Threat

The pandemic has struck at the economic progress achieved by Egypt in recent years, reflected in encouraging growth rates and lower unemployment and inflation. Specifically, the coronavirus has now weakened major pillars of the economy. Millions of Egyptians who work abroad (mostly in the Arabian Gulf states) remitted some \$29 billion to Egypt in 2019, but many have been fired or had their wages cut, and may return to their home country; the tourism industry has also been particularly hard hit, having only recently recovered from the turmoil of the last decade. The sector, which saw profits of \$12.4 billion, accounted for about 15% of the GDP, while providing some four million jobs (12.6% of the workforce). The aviation industry lost EGP 2.5 billion in March alone, and its employees asked the government for emergency aid; traffic along the Suez Canal is also expected to drop due to the recession in global trade and the plunge in global oil prices.

A major question is the potential impact the economic downturn will have on Egypt's political stability. On the one hand, recent economic reforms have increased Egypt's foreign currency reserves to around \$45 billion and stabilized its macroeconomic position, which facilitates its current response to the crisis. On the other hand, the reforms included the elimination of subsidies and thus increased the poverty rate to 32.5%, and intensified the vulnerability of the middle to low socioeconomic class. According to IFPRI estimates, the crisis will cause a reduction in GDP of 0.7-0.8% each month, cutting average household income by about 10%, and increasing the rates of unemployment and poverty. In 2020, according to the International Monetary Fund, growth in Egypt will drop to 2%; Egypt itself revised its growth estimates to 4.2% (down from the forecasted 5.7%) and reported a decrease of \$8.5 billion in foreign investments.

The sector that is most vulnerable to the crisis is that of are the 12-14 million irregular day laborers, who lack permanent employment and social benefits. Most of them belong to the middle to lower class, and as their distress mounts, there will be greater potential for social unrest and protests. In order to improve their

situation, the government has authorized a special grant of EGP 500 per month for three months, but it will be difficult to bear such a burden long term. Charity organizations are also gearing up to provide help for those struggling, while food chains are selling basic necessities at subsidized prices.

The Egyptian government has allocated EGP 100 billion (about \$6.4 billion) to deal with the crisis, and has invested EGP 20 billion to stem the collapse of the stock exchange. Some of these moves are designed to assist businesspeople and companies in the private sector, and include reduction of interest rates and elimination of bank commissions, relief on taxation and debt repayments, a reduction in the price of electricity and gas for industry, and support for hotels. Part of the budget will be funded by postponing the launch of national projects, including the move of government offices to the new administrative capital. In addition, government ministers and members of parliament are being asked to donate part of their salary to the national fund, "Tahya Misr."

Significance and Potential Action Items

In Egypt, even more so than in affluent Western nations, economic considerations play a vital role in any plans for a return to routine. The choice is between difficult alternatives: business people are calling for a renewal of economic activity even at the cost of higher morbidity rates in order to avert economic collapse in the form of bankruptcies, mass hunger and anarchy; others warn that containing the spread of the virus mandates additional economic victims, such as non-essential businesses, further personnel cuts in government ministries, and perhaps even a complete lockdown for a limited period. At present, although there is no sign that the infection curve is flattening, the government is currently prioritizing partial economic activity under controlled conditions, particularly in domains such as transportation, housing, and agriculture.

At the diplomatic level, the coronavirus highlights the range of Cairo's international ties. Egypt has airlifted aid to Italy, Britain and the United States, and itself received aid from China, including four tons of medical equipment containing 10,000 test kits. While the United States battles soaring mortality rates, China is exploiting its status as the first country allegedly to emerge from the crisis in order to reinforce its status as a global power and increase its influence elsewhere, including Egypt. On the other hand, the crisis could cast a shadow over Egypt's relations with its allies in the Gulf, who in view of the fall in oil prices will likely have difficulty in continuing to provide the aid and investments to which Egypt has become accustomed, or to pay wages to Egyptian migrant workers.

Israel and Egypt could promote cooperation along a range of channels: they share an interest in avoiding a medical-humanitarian crisis in the Gaza Strip, which would spill over into their borders. They could also examine opportunities to strengthen the Palestinian Authority at the expense of Hamas, for instance by positioning the PA as the coordinator of international aid to the Strip. Moreover, Egyptian mediation between Israel and Hamas is crucial at this time to prevent military escalation and in order to examine the possibility of a prisoner exchange. Israel, for its part, can help Egypt with medical knowledge and surplus equipment, and if necessary, support its requests for aid from the international community. (INSS 22.04)

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11.7. TUNISIA: Moody's Places Tunisia's B2 Rating on Review for Downgrade

On 17 April, [Moody's Investors Service](#) placed the Government of Tunisia's B2 issuer ratings on review for downgrade.

Moody's has also placed the Central Bank of Tunisia's B2 senior unsecured rating and the (P)B2 senior unsecured MTN program and senior unsecured shelf ratings on review for downgrade. The Central Bank of Tunisia is legally responsible for the payments on all of the government's bonds. These debt instruments are issued on behalf of the government.

The decision to place the ratings on review for downgrade reflects the acute tightening in global financing conditions that risks precipitating a sustained period of high financing risk, exacerbated further by Tunisia's weakened near-term economic growth prospects, deteriorating fiscal position, and fragile external position.

The rapid and widening spread of the coronavirus outbreak, deteriorating global economic outlook, falling oil prices, and asset price declines are creating a severe and extensive credit shock across many sectors, regions and markets. The combined credit effects of these developments are unprecedented. Moody's regards the coronavirus outbreak as a social risk under its ESG framework, given the substantial implications for public health and safety.

For Tunisia, the shock transmits mainly through wider risk premia, a drop in tourism revenue and a sharp slowdown in GDP growth that weaken the sovereign's liquidity and external position and raise its debt burden. The shock increases the risks to Tunisia's credit profile significantly compared to increasing confidence that macroeconomic stability would be sustained at the time of Moody's change in the outlook on Tunisia's ratings to stable from negative last February.

The review period, which may extend beyond the usual three-month horizon, will focus on assessing the authorities' capacity to manage such a significant shock in the context of existing economic, financial and social pressures, and evaluating the options to address the resulting fiscal and external funding gap.

Tunisia's local currency and foreign currency long-term bond and deposit ceilings remain unchanged: the long-term local currency bond and bank deposit ceilings at Ba2, long-term foreign currency bank deposit ceiling at B3, and the foreign currency bond ceiling at Ba3. The short-term foreign currency bond and bank deposit ceilings remain unchanged at Not Prime.

RATINGS RATIONALE / Factors That Could Lead to an Upgrade or Downgrade of the Ratings

Increased Financing Risks

Elevated credit spreads increase financing risks for Tunisia in view of the government's significant funding needs every year over the next few years and in light of a limited FX reserve buffer, with a rigid budget spending structure and challenging social conditions suggesting minimal scope to enact wide-ranging adjustment to reduce the fiscal and external financing gap.

Yields on outstanding Tunisian instruments have risen to over 900 basis points (bp) (compared to about 500 bp at the time of the February rating action where Moody's changed the outlook on the B2 rating to stable from negative), indicating impaired market access at this point. In comparison with peers, Tunisia's immediate exposure to refinancing risk is relatively high with the government's international bond maturities due this year amounting to 10% of reserves. These financing needs continue over the next several years, with low reserves coverage of economy-wide external debt payments.

The government relies to a large degree on external official funding sources to meet its gross financing needs at about 10-15% of GDP. While negotiations for a follow-up IMF program are underway after the cancellation of the remainder of the previous four-year Extended Fund Facility that started in May 2016, the government has secured a \$745 million disbursement under the IMF's Rapid Financing Instrument (RFI) and a \$280 million loan from the Islamic Development Bank (Aaa stable) to address the additional fiscal costs of its coronavirus response program.

However, wider fiscal and current account deficits than previously expected due to marked shortfalls in government revenue risks raising Tunisia's financing needs beyond what has been secured so far at a time when financing options are constrained. In particular, a weak banking system limits the capacity for the government to tap domestic sources of funding over an extended period.

The review period will focus on the government's adjustment capacity in the context of such a significant shock that aggravates existing economic, financial and social pressures, including progress in negotiating a new funded IMF program that may provide a backstop to immediate financing requirements.

Coronavirus Shock Delays Fiscal Consolidation Progress and Pushes Debt Toward 80% of GDP

The government's coronavirus response program of about \$1 billion (2.7% of estimated 2020 GDP), combined with a revenue shortfall, drives Moody's projected fiscal deficit to more than 5% of GDP in 2020 from 3.5% in 2019 and against a previously anticipated improvement to 3% at the time of the February rating action. Combined with slower nominal GDP growth, the debt ratio will increase towards 80% of GDP against Moody's previous expectation of a stabilization at below 75%. The debt trajectory will be highly dependent on exchange rate developments at a time of increased pressure on emerging market currencies. So far, Moody's assumes broad stability in the Tunisian dinar.

Among the announced measures, the government will raise health spending, strengthen social safety nets, and support small- and medium-sized firms via tax relief measures and interest subsidies - all of which will weigh on the budget deficit.

Moreover, the president ordered a general lockdown until 19 April, limiting citizens' free movement in an effort to curb the spread of the coronavirus, which will weigh on economic activity and government revenues, further aggravating the budget deficit and debt burden.

Long-delayed reforms of state-owned enterprises (SOEs) that carry a government guarantee and account for about 16% of GDP add to the risk of contingent liabilities materializing on the government's balance sheet.

The review will assess the government's capacity to arrest a rising debt trend, depending on exchange rate movements and the potential materialization of contingent liabilities.

Sharp Decline in Tourism Weighs on Growth Prospects, External Accounts, Raising Social Risks

The tourism industry in Tunisia contributes about 10% of GDP and accounts for a similar share of employment. The restoration of the tourism industry over the past five years has been key in creating new employment, in driving services activity and in generating foreign exchange reserves. A prolonged slump would not only weigh on Tunisia's growth outlook but risk jeopardizing social stability in light of persistently weak employment.

Moody's anticipates a sharp economic contraction in 2020, followed by a recovery in 2021, assuming global growth and travel return, and a reversion to a trend growth rate of 1.5-3% in future years. Under this scenario, the level of economic activity will be markedly below what could have been expected before the shock for years to come. Rigid labor markets mean productivity will be constrained, while limited employment prospects especially for young graduates increases the risk of social discontent in the future.

Risks to these projections are on the downside. In particular, the tourism sector may take longer than other sectors of the global economy to recover from the coronavirus shock, further constraining employment prospects and reducing a key contributor to FX generation.

The review period will allow Moody's to assess the depth, duration and spillover effects of the domestic and global shock, and potential implications for potential growth and social stability.

Environmental, Social and Governance Considerations

Environmental considerations are relevant for Tunisia's credit profile because the effects of climate change can significantly impair economic growth and development. Coastal regions account for 80% of total output, the majority of which are exposed to rising sea levels. Climate variability, erratic precipitation patterns, and severe droughts pose significant threats to Tunisia's agricultural sector, which accounts for more than 15% of total employment.

Social considerations are material for Tunisia's credit profile. In recent years, social tensions have increased in response to fiscal adjustments made under the current program with the IMF and in response to persistently slow growth and employment trends. The threat of social unrest can impact the capacity of the government to implement necessary reforms. Moody's views the coronavirus outbreak as a social risk under its ESG framework, given the substantial implications for public health and safety. For Tunisia, the shock materializes primarily through a sharp tightening in financing conditions and a drop in tourism revenue and growth.

Governance considerations are material for Tunisia's credit profile and relate to the administration's demonstrated capacity to function even during times of social unrest. The country's consensus-building governance orientation has been instrumental in securing the successful democratic transition with all stakeholders involved, but it can slow down the policy decision making process.

Factors That Could Result in Confirmation of the Current Rating

The rating would likely be confirmed at the current B2 level if the review concluded with sufficient confidence that the coronavirus shock will not materially alter Tunisia's debt trajectory and/or erode the recently restored foreign exchange reserve buffer. Similarly, high confidence in Tunisia's ability to secure funding to meet its upcoming debt service payments in the next few years at affordable costs could also support confirmation of the rating at the current level.

Factors That Could Lead to a Downgrade

Conversely, a downgrade would be likely if there were delays in the availability of or marked increase in the cost of external funding, or a significantly more severe deterioration in Tunisia's fiscal and debt metrics that would weaken Tunisia's fiscal strength and foreign exchange reserves adequacy.

Evidence that the coronavirus shock would reduce potential growth, thereby exacerbating social tensions and lower the prospect for fiscal consolidation could also result in a downgrade. (Moody's 17.04)

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11.8. MOROCCO: Coronavirus in Morocco - Economic and Social Implications

Mohamed Chtatou posted on 23 April in [Fikra Forum](#) that countries around the world are addressing the consequences of the COVID-19 pandemic based on their unique needs and abilities to confront it. Morocco's position as a North African country with extensive ties to Europe, which has been a key feature of the Moroccan economy, is now presenting numerous economic and social challenges. Morocco has had to face these challenges on many different economic, legal, and social fronts.

Timeline of Reactions to the Pandemic

During the early stages of the outbreak, like many other countries around the world, Morocco issued evacuation orders for nationals living in China's Wuhan region, where the virus was first detected. Upon their return to Morocco, additional restrictions were put in place for the evacuees, which included a mandatory 20-day quarantine in a Rabat military hospital.

To further mitigate the risk of spreading the novel coronavirus in Morocco, screening was introduced at all entry points—including airports—in late January. The following month, Morocco made free testing available to the public.

Despite initial efforts, the first confirmed case of COVID-19 in Morocco was identified on 2 March. Since then, the virus has continued to spread throughout Morocco, rising from 33 cases on 3 March to 3,537 on 23 April. As the number of local cases increased, so has the number of deaths. On 10 March, the Moroccan health ministry announced the first death from the virus - an 89-year-old Moroccan woman who returned to

Morocco from Bologna, Italy. Over a month later, the number of coronavirus related deaths has reached 151.

Despite Morocco's relatively low rate of case numbers in comparison to its European neighbors (three per 100,000 people), the projections for Morocco's future are much more grim in light of this outbreak. Many experts have predicted that medical centers in cities will become overwhelmed and rural areas would be unable to test for and treat the disease. Since the Moroccan government has also ordered more COVID-19 tests from China and South Korea, many experts expect to see a large spike in the rate of cases.

Shortly after the first death was announced, the government began to add on to the number of travel restrictions already in place by closing its sea and air borders with France and Spain, as well as its land borders with the Spanish enclaves of Ceuta and Melilla. Morocco also chose to follow the example of many countries by suspending all school activities until further notice on 13 March.

The number of confirmed cases doubled between 14 and 16 March, though the actual number of infections during that time period might have been higher given the high demand for and global shortage of Covid-19 test kits. With the spike in case numbers, Moroccan Prime Minister Saad Eddine El Othmani told the public not to panic and that the outbreak in Morocco was under control. However, videos circulated on social media of overcrowded supermarkets and food supply stores, which only worsened public alarm over potential food shortages. Around this time, while still under voluntary stay at home orders, the hashtag #restecheztoi, meaning "stay at home," was promoted by Moroccans citizens and gained traction on various social media sites, including twitter.

On 18 March, the joint working commission between the Ministry of Health and the association of private clinics met to discuss the mobilization of resources of private clinics to benefit public hospitals. Two weeks after Morocco confirmed its first case of COVID-19, the government officially declared a "Health State of Emergency" that was originally scheduled to remain in effect until 20 April and later extended until May, only a few days before the start of Ramadan's month-long fast period.

These measures include a mandatory nationwide lockdown and curfew enforced by the police and the army, requiring that citizens limit their movement during the day to absolutely necessary activities. The government has been strictly enforcing the measure by requiring individuals leaving home to acquire a special permit either from their workplace or local authorities. Since 20 March, authorities have arrested thousands of individuals for violating the state of emergency or for spreading false information. Yet the government has also released thousands of other offenders from its prisons to reduce the threat of clusters there.

About a month after the emergency declaration, as the number of confirmed cases and coronavirus-related deaths continued to grow, the government extended the national lockdown until 20 May to further combat the spread of the virus.

Economic Challenges and Responses

With the country shut down, Moroccans are increasingly wondering about the economic implications of this virus. There is uncertainty regarding the impact of the pandemic on the Moroccan economy, although a recent letter to the EU suggests that the impact will be severe though varied depending on the sector.

This letter was sent to the EU delegation by the Moroccan government on 26 March and predicted significant losses in tourism, automobile, and textile industries in 2020. It highlights how the EU accounts for more than 58% of Moroccan exports, 59% of foreign direct investments (FDI), and 70% of Morocco's tourism industry. While Morocco has not yet experienced the full effects of the virus on its economy, the expected decrease from European markets will soon be felt domestically.

The Minister of Employment and Professional Integration, Mohamed Amekraz, has stated that a total of 113,000 companies have halted work operations since 15 March. The Minister also said that more than

700,000 employees have been unable to work or have been laid off as a result, though the government set the deadline to file for unemployment to Friday, 3 April.

The International Air Transport Association (IATA) also predicts that the pandemic will drastically decrease air traffic, with a projected total loss of around \$728 million and more than 225,000 jobs. Following the general ban on passenger vehicle traffic on 24 March, road and rail transport can expect similar levels of devastation.

Another economic side effect of COVID-19 is the drastic reduction of funds from the Moroccan diaspora, which many families rely upon. Morocco's diaspora plays a significant role in their homeland's economy; around 69% of Moroccans residing abroad (MRE) transfer around a quarter of their annual income back home.

The tourism industry is projected to be the hardest hit sector of the economy. The National Tourism Confederation (CNT) estimates the projected losses for 2020 to be approximately \$34.1 billion in overall tourism revenue and \$14 billion from the hotel industry alone. CNT predicts a 98% drop in tourists visiting the country, which will put 500,000 jobs and 8,500 businesses at risk.

But reports from the Economic Intelligence Committee (CVE) indicate that the number of employees who have since filed for benefits far exceeds the amount the agency can realistically provide for. The CVE has forecasted a target population of about 430,000 employees for a total amount of compensation estimated at MAD 4 billion through 15 March 2020 to the end of June 2020. Morocco has also temporarily prevented hiring in the public sector, except in security and health sectors, as a more extreme measure in tackling the coronavirus crisis.

This stark reality places Morocco in a position similar to many in the region—both the public health and economic impacts of this pandemic are likely to be far reaching and unlikely to provide a quick recovery. Even so, the public and the government so far appear to be doing what they can to flatten the curve of coronavirus and prepare for the subsequent challenges ahead.

Dr. Mohamed Chtatou is a political analyst and professor of education science at the University of Rabat. (Fikra Forum 23.04)

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11.9. GREECE: Outlook Revised to Stable on Adverse Effects of COVID-19

On 24 April 2020, [S&P Global Ratings](#) revised its outlook on the long-term sovereign credit rating on Greece to stable from positive. At the same time, we affirmed our 'BB-/B' long- and short-term sovereign credit ratings.

Outlook

The stable outlook reflects our view that Greece's substantial fiscal policy buffers offset risks to its creditworthiness emanating from COVID-19's economic and budgetary implications.

Downside scenario

We could lower the ratings if economic growth is significantly weaker than we expect, eroding the government's fiscal buffers and resulting in significant deviation from our current budgetary projections.

Upside scenario

We would consider an upgrade if the impact of the COVID-19 pandemic on Greece's economic performance proves to be short-lived and the current erosion in budgetary performance due to the crisis is reversed. We

could raise the ratings in the context of continuous policy implementation oriented toward economic stability to address the remaining structural challenges in the economy. Another potential trigger for an upgrade over the medium term would be a marked reduction of nonperforming exposures (NPEs) in Greece's impaired banking system, which would, in our view, benefit the currently challenged monetary transmission mechanism.

Rationale

The revision of the outlook reflects our expectation of sharp deterioration in Greece's economic and budgetary performance owing to the adverse impact of the COVID-19 pandemic and the countermeasures Greece is taking.

We affirmed the ratings because, in our current economic forecast, we expect a rebound in 2021, accompanied by a steady budgetary consolidation over our forecast horizon. The affirmation is based on Greece's significant fiscal buffers built over the past several years thanks to:

- Its very strong budgetary performance;
- Preservation of substantial liquidity reserves on the government's balance sheet;
- A favorable government debt structure; and
- Funding flexibility enhanced by the European Central Bank's (ECB's) recent waiver on the eligibility of Greek government bonds for its Pandemic Emergency Purchase Program (PEPP) and as collateral in the ECB's repurchase operations.

In terms of maturity and average interest costs, Greece has one of the most advantageous debt profiles of all the sovereigns we rate. The commercial portion of Greece's central government debt represents less than 20% of total debt, or less than 40% of GDP. After a sharp increase in 2020, we project that Greece's general government gross and net debt-to-GDP ratios will decline from 2021, aided by a recovery in nominal GDP growth and budgetary consolidation.

The ratings are constrained by the country's high external and public debt, a banking system still under pressure with large NPEs, and a challenged monetary transmission mechanism.

Institutional and economic profile: Greece is countering the COVID-19-induced recession with sizable fiscal buffers and monetary policy measures

- The pandemic and its implications for economic activity will, in our view, lead to a sharp downturn this year, with GDP contracting by about 9% before rebounding in 2021.
- Downside risk emanating from the lockdown's duration and subsequent pace of recovery remains firmly in place, especially in Greece's large tourism sector, hence threatening GDP.
- To counter the adverse economic effects of the pandemic, the government announced a sizable fiscal package, helped by its substantial liquidity buffer, as well as by the ECB's recent waiver to include Greek government bonds in its PEPP.

Greek authorities have achieved early success in stabilizing infection and mortality rates in the face of the outbreak of the novel coronavirus. We currently forecast that the COVID-19 pandemic and its implications for economic activity will lead to a sharp economic downturn this year, with GDP contracting by about 9%. Our economic projections are unusually uncertain, as they depend upon the evolution of the pandemic. In Greece, as in other affected countries, the lockdown measures imposed on March 23 to combat the spread of the virus have been constraining consumer spending and economic activity more generally. Further government restrictions on the movement of labor, and especially the duration of these measures, could lead to a deeper recession. For example, we currently project GDP will contract by about 7.3% in the Eurozone this year.

Recession in Greece will be spurred by contraction in all components of aggregate demand, given the pandemic's simultaneous effect on external and domestic demand. In our forecast, we project that

investment and exports in particular will contract significantly this year, with a particularly adverse effect on the country's important tourism sector. Current account travel receipts in 2019 represented almost 10% of GDP and about 22% of the economy's total current account receipts.

To counter the adverse economic effects of the pandemic, and shield viable businesses and employees from a temporary-but-severe liquidity shock, the government has announced a sizable fiscal package. It includes:

- Wage subsidies and full coverage of social security contributions for employees and the self-employed affected by the COVID-19 countermeasures;
- Interest payment subsidies, a corporate tax cut (from 24% to 20%), loan guarantees and grants for companies, a tax and social security contributions holiday for businesses, and rent payment support for businesses; and
- A mortgage holiday for three months for the most vulnerable individuals and a €180 million program to support teleworking skills of 170,000 professionals as well as reduction of levies on airlines and hotels.

The package of measures, funded by government and EU funds, is currently estimated at about €15 billion (7.5% of 2019 GDP). The government is considering additional temporary measures, which could potentially include reduction in the value-added-tax (VAT) rate and in the advance tax payment, as well as elimination of the overnight stay charge. In the absence of such a fiscal response, Greece's GDP would fall considerably further, and solvent businesses would be forced to liquidate, eroding the economy's productive base.

In support of the Eurozone's forceful fiscal response to COVID-19, the ECB has pushed back against rate divergence within the monetary union by launching the PEPP. Under the PEPP, the ECB has committed to purchase €750 billion (6.2% of Eurozone GDP) in government and corporate bonds this year, over and above the €360 billion (3.1% of GDP) in the existing asset purchase programs. Eligible maturity ranges for PEPP purchases have also been broadened to include maturities as low as 70 days, and the ECB has clearly stated that it is prepared to scale up PEPP beyond its current envelope. Although the ECB noted that government bond purchases would be linked to the capital key of the national central banks, it promised that it would take a flexible approach toward purchases, and that there would be fluctuations away from the capital key in some jurisdictions depending upon market conditions. The capital key is the fixed percentage each national central bank accounts for of the ECB's total subscribed capital. It is calculated according to the size of a member state in relation to the EU as a whole, size being measured by population and gross domestic product in equal parts. In the context of the increase in government borrowing needs, we believe that the planned expansion of the ECB's balance sheet is appropriately oriented toward absorbing them at relatively low borrowing costs.

Another key decision is to grant a waiver of the eligibility requirements for securities issued by the Greek government. This implies the ECB's willingness to directly participate in purchases of Greek government debt for the first time since 2011 when the purchases of Greek bonds took place under the ECB's Securities Markets Program. Moreover, the ECB announced that it would start accepting Greek government bonds as collateral in its repurchase operations, boosting further the liquidity support to the banking system.

In 2021, we expect an economic rebound, the magnitude of which will hinge, among other factors strictly related to the potential end of the COVID-19 health crisis, on the restoration of tourism activity. Over the next three years, we expect Greece's economic growth will surpass the Eurozone average, including in real GDP per capita terms. We also expect economic performance to remain balanced, fueled mainly by domestic demand and exports. In this context, we expect a steady rise in private consumption amid higher employment, following the decline in 2020. The government's fiscal measures included in the 2020 budget, such as the reduction of personal income tax for low-income earners, lowering of property tax and revised schedule for paying tax arrears, should support households' disposable income.

Following a decline in 2020, driven by the COVID-19 pandemic and countermeasures and their impact on demand and companies' profits, investment activity is also set to improve in 2021 alongside increasing net

foreign direct investment. Despite the economic recession arising from the pandemic, the government is sticking to its privatization program, facilitating planned private-sector-led projects, such as redevelopment of the site where Athens International Airport formerly stood. Assets to be privatized include a 30% stake of Athens International Airport, a stake in Hellenic Petroleum, DEPA (the public gas corporation), concessions on the Egnatia motorway and regional ports. Given the 2020 recession, progress on the privatization agenda will likely slow. According to the 2020 budget, the government had planned to increase public-sector investment to 4.3% of GDP in 2020 from about 3.8% in 2019.

However, in our opinion, the key to a faster economic recovery is a drop in banks' NPEs, which would spur private-sector credit. We believe the positive impact of previous reforms, such as in product and services markets, are unlikely to be displayed in recessionary or low-growth conditions. Without access to working capital, the small and midsize enterprise sector - the economy's largest employer - remains in varying degrees of distress. Private-sector default is still widespread, including on tax debt. The onset of recession will further complicate efforts to reduce the large stock of NPEs, given its impact on corporate balance sheets.

Greece still compares poorly with its peers, due to impediments to competition in its product and professional services markets, relatively weak property rights, complex bankruptcy procedures, inefficient judiciary, and low predictability of contract enforcement. Labor reform by the previous administration, which could have reintroduced national collective wage negotiations, was reversed last year. We view the current government's labor reforms as geared toward improving companies' flexibility.

The government also plans to reform the business environment, by reducing undue administrative burdens (especially to speed up investment) and anticompetitive behavior, particularly in the services sector. We believe successful business-friendly reforms would likely enhance macroeconomic outcomes and the sovereign's debt-servicing ability in the medium to long term.

Following the end of the European Stability Mechanism (ESM) program, Greece is subject to quarterly reviews under the European Commission's "enhanced surveillance framework." Ongoing debt relief and the return of so-called ANFA/SMP profits on Greek bonds held by the ECB and the Eurozone's national central banks is subject to ongoing compliance with the program's objectives. However, given the extraordinary circumstances of 2020 and the temporary suspension of the EU Stability and Growth Pact fiscal framework, we expect those profits to be at the government's disposal even though Greece's GDP primary balance in 2020 is much lower than the agreed 3.5%. We also believe that, based on current assumptions on the financing needs, the Greek authorities may not need to draw on the corresponding part of the ESM's cash buffer.

Flexibility and performance profile: Strong budgetary performance interrupted by the effects of COVID-19

- We now forecast a budget deficit of about 7.7% of GDP in 2020, compared with a budget surplus in 2019.
- We project general government debt will temporarily increase in 2020, but the government is facing the COVID-19 crisis with a large cash buffer and a wide array of funding options without jeopardizing public finance sustainability.
- The COVID-19 crisis complicates banks' NPE reduction plans.

The adverse economic and budgetary effects of COVID-19 will interrupt Greece's recently established strong track record of exceeding budgetary targets following a large budgetary adjustment since the 2010 economic and financial crisis. As a result of the government's abovementioned discretionary budgetary measures and the impact of the recession on government revenue and spending, we currently expect a budget deficit in 2020 of about 7.7% of GDP, from a surplus of about 1.5% in 2019. This implies a primary deficit of nearly 5% of GDP, significantly below the previous target of a 3.5% surplus agreed with official creditors.

Besides the measures to mitigate the impact of COVID-19, the 2020 budget included a series of measures to reduce the tax burden on the economy. In addition to a reduction in the property tax rate, the budget decreased the basic personal income tax rate to 9% from 22%, corporate income tax rate to 24% from 28%, and dividend tax rate to 5% from 10%. It also suspended VAT on new buildings and the tax on property capital gains for three years, as well as cutting social security contributions by 5% by 2023, among other measures. This tax relief was expected to be offset by revenue and spending measures, including increased tax collection from combatting tax evasion via the enhancement of electronic transactions, and revaluation of the property tax base.

Sharp deterioration in the general government balance will lead to an increase in gross general government debt to about 197% of GDP this year from about 177% last year, before falling again in 2021. Net of cash buffers, we project net general government debt will increase in 2020 to about 181% of GDP from about 157% of GDP in 2019, before declining thereafter. Despite the significant worsening in budget balance and government debt in 2020, Greece entered the COVID-19 crisis with substantial fiscal buffers. This evident in not only its underlying structural budget position, estimated in a surplus of about 2% of GDP in 2019, but also in that Greece has at its disposal a substantial liquidity reserve (estimated at about 20% of 2019 GDP), which dramatically reduces its borrowing needs. In this context, we expect the transfer of SMP/ANFA returns from the Eurosystem this year, despite a substantial deterioration in budgetary performance. Moreover, the ECB's decision on eligibility of Greek government bonds for PEPP and as collateral in repurchase operations, are, in our view, key for Greece's access to funding at affordable rates. Eased access to funding options in the context of the recent EU agreement on a credit line from the ESM, credit support from the European Investment Bank, and reinsurance for national unemployment schemes represent additional resources.

Despite the size of Greece's debt, we estimate its debt-servicing costs averaged about 1.5% at year-end 2019, significantly lower than the average refinancing costs for the majority of sovereigns we rate in the 'BB' category. We estimate the average remaining term of Greece's debt at 23 years as of 31 December 2019, although this is set to increase with the implementation of debt-relief measures granted in June 2018.

Greek banks have made progress in reducing their NPEs, which at the end of 2019 totaled about €68 billion (excluding off-balance-sheet items), down slightly more than a third from €107.2 billion in March 2016. The Greek authorities have launched an asset-protection scheme called Hercules, which entails granting sovereign guarantees for senior tranches of proposed NPE securitizations to reduce NPEs in the banking system. We believe such measures would help repair the monetary transmission mechanism and hasten the economic recovery. However, as a result of the COVID-19 impact, we expect a reversal in the positive trend on new NPE formation. We also believe that, in this environment, the recent implementation of Hercules is also unlikely to speed up the expected pace of problematic asset disposal.

Nevertheless, the Single Supervisory Mechanism's decision to give banks more flexibility for NPE classification should lead to less stress on reported asset quality metrics. Similarly, the ECB announced several extraordinary measures to provide temporary capital and operational relief to European banks, as well as liquidity support in case of need, to an extent alleviate risks to the overall financial risk profiles of Greek banks.

Liquidity in the banking system has improved over the past few years. Since a year ago, banks no longer rely on costly emergency liquidity assistance. Greek financial institutions retain access to the ECB's long-term refinancing lines, while those Greek small and midsize enterprises most exposed to COVID-19, particularly in tourism, have access to dedicated targeted longer-term refinancing operations (TLTRO III) lines on highly accommodative terms. This should shield the Greek economy from intense external liquidity pressures. Importantly, following the ECB's recent decision, banks can access regular ECB financing using Greek government bonds as collateral.

We project Greece's current account deficit will widen in 2020 to about 4.7% of GDP, due to lower tourism and other export receipts, while the fall in imports, including due to the fall in oil prices, will cushion this impact. Structural economic changes over recent years have put Greece's export sector into a position to benefit from its increased competitiveness. Labor cost competitiveness has improved to the level before

2000, and external demand has risen. Consequently, the share of exported goods and services (excluding shipping services) has almost doubled, compared with 19% of GDP in 2009. Once the threat of COVID-19 has abated, Greece's market shares in global trade could post further gains in the medium term. (S&P 24.04)

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