Fostering a Startup and Innovation Ecosystem
We are on a mission to make the world a more innovative and prosperous place, one community at a time.

We believe that entrepreneurs are critical to driving a strong global economy and a better world. We do our part by supporting the grassroots leaders who are at the core of every strong entrepreneurial community.
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Executive Summary

New ideas come from everywhere, and entrepreneurs do not have to be in Silicon Valley to be the next Google or Facebook. In fact, a growing number of thriving tech companies got their start elsewhere—Kakao, Spotify, and Waze, just to name a few. That said, Silicon Valley is home to the most prolific, thriving startup ecosystem in the world. We are seeing communities take lessons learned from Silicon Valley and apply them to their local context to develop ecosystems in other places like Tel Aviv, London, and New York City. Plenty of existing research and case studies provide advice for entrepreneurs and have shown that there are a few common ingredients that help to foster successful ecosystems. In this paper, we will explore five of these ingredients in detail: talent, density, culture, capital, and regulatory environment.

Talent

Having the right talent is essential to support business growth. Countries need to invest in human capital to build and retain a workforce not only with the skills startups seek but also to help build businesses and innovate for the future. Countries can kickstart investment in human capital by creating flexible labor markets that attract people with a variety of skills and experience; supporting education for an IT and innovation workforce; and promoting diversity in the workplace.

Density

Innovation is something that is bred through the intersection of great minds. Creating density of talented thinkers and makers dramatically increases the potential for successful ventures to emerge. Countries can foster startup density by supporting cluster growth, creating physical hubs, driving awareness in the media, building networks with mentors, and linking academics and research networks with businesses.
Culture is a critical asset of an innovation cluster. Countries can create an entrepreneurial country by highlighting entrepreneurs as role models, accepting failure as an integral part of the learning process, teaching entrepreneurial skills and promote jobs for startups and fostering public-private communication.

Whether businesses are just starting or trying to scale, financing is critical for success. Experienced capital can really make a difference for new companies. Experienced investors can help coach founders along their journey. Policy makers can take proactive measures to make it easier for startups to access capital required to start and grow businesses and create tax incentives for investors.

Governments have a role to play in creating a stable, predictable, and supportive regulatory environment for entrepreneurs and investors. In order to create a supportive regulatory environment, countries should focus on the ease of starting and closing a business, tax policy, intermediary responsibility and safe harbors, maintaining a global web, patent protection that supports innovation, formalizing alternative funding models, and investing in R&D.
New ideas come from everywhere.

With access to the Internet, global entrepreneurs also have access to the infrastructure, education and networks needed to get startups off the ground. Small businesses can now compete with big brands via social media engagement, clever online marketing, and efficiently delivered advertising. Even in markets where there is a mismatch between available capital and the startup community, an entrepreneur can raise money by crowdsourcing from the public. Rather than leasing an expensive office, a startup can find a home in a local co-working space and often outsource functions via oDesk, 99Designs and eLance. And if founders want to give their startup a boost, they can join one of the 2000+ accelerators globally. It has never been a better time to be an entrepreneur.

That said, Silicon Valley is home to the most prolific, thriving startup ecosystem in the world, and we are seeing similar ecosystems develop in other communities like Tel Aviv, London, and New York City. It is worth taking a closer look at the ingredients that draw companies to these particular places. Plenty of research and case studies out there have shown that there are a few common ingredients that help to foster successful ecosystems. In this paper, we'll explore five of these ingredients in detail: talent, density, culture, capital, and regulatory environment. We use success stories to illustrate ways that governments can get help to create the right conditions for vibrant startup ecosystems, harnessing the economic benefits and cultural pride that come with it.
Talent
Having the right talent is essential to support business growth. In the past, companies chose their locations based on proximity to raw materials, commerce routes, or availability of low cost inputs or labor. Today, high-growth companies increasingly look for locations that allow them to have access to a diverse and global talent pool. To attract these companies, countries need to invest in human capital to build and retain a workforce not only with the skills startups seek but also to help build businesses and innovate for the future.

Countries can kickstart investment in human capital by creating flexible labor markets that attract people with a variety of skills and experience; supporting education for an IT and innovation workforce; and promoting diversity in the workplace.
Governments can create more dynamic labor markets to encourage investment. Experience demonstrates that countries that adopt pro-growth investment and immigration policies—which allow for the freer movement of people and employees—tend to be the ones that cultivate a flourishing entrepreneurial ecosystem. Silicon Valley in particular has benefited from the skills and experiences of entrepreneurs around the world. Over half of the startups in Silicon Valley have one or more immigrants as a key founder. On the other hand, inhibiting flexibility of labor markets can result in uncertainty for investors and companies alike. For example, most venture capitalists are critical of labor policy in Europe, and cite it as one of the reasons they are hesitant about investing money in European startups. They argue that venture capitalists invest in companies with uncertain futures, and that the money they invest cannot be locked up in managing a workforce that may not be the right one when a company needs to change its course.

At the same time, firms in some countries report difficulties in finding and attracting the right talent for open roles. In some countries, one solution to this dilemma may be to make it easier for companies to attract skilled labor from outside their home country. Immigration reform could enable companies to attract underutilized talent from other countries, simultaneously having a positive impact on unemployment rates in the originating country. However, in some countries with high unemployment rate, it has been difficult for governments to navigate around domestic economic policy to focus on immigration policies.

In countries where attracting talent is a problem, a high-skilled immigration policy can provide visas for people with technical skills and successful entrepreneurs while allowing more innovators to contribute to their economy. Reid Hoffman has said, “Immigration is key to any entrepreneurial ecosystem.” Carlos Espinal, partner at Seedcamp says, “One quick way of bridging a shortage in staff in an area is to create immigration policies that allow for talented and capable individuals to enter the country and its labor force without major hurdles.” In Canada, three passionate entrepreneurs – Boris Wertz, Danny Robinson and Maura Rodgers – launched the Startup Visa Initiative in 2010 to garner support from other influential Cana-

“Immigration is key to any entrepreneurial ecosystem”

-REID HOFFMAN (CEO LINKEDIN)
ians and encourage the government to create an alternate Startup Visa to attract talented immigrant entrepreneurs. On April 1, 2013, the Canadian Government opened their doors to entrepreneurs from around the world with their office launch of a first-of-its-kind Startup Visa.

While there exists no specific U.S. visa program for entrepreneurs, there have been proposals recently for a “Startup Visa” for non-U.S. citizen entrepreneurs who can attract investment from a qualified U.S. investor. The Kauffman Foundation analyzed the job-creating potential of one current legislative proposal and the results were impressive. The conservative estimates project that a startup visa could create between 500,000 and 1.6 million new American jobs in 10 years, making it an attractive component of a new “jobs act.”

Another interesting example is Start-Up Chile. The government created this pilot program in 2010, which brought 22 startups from 14 countries to Chile, providing them with a temporary 1-year visa to develop their projects for six months, with possibility of extension. This program has supported a total of 750 projects in 3 years, from 65 countries. However, it is still too early to tell if this program has encouraged immigrant entrepreneurs to take up residence in Chile or more Chilean entrepreneurs to start companies. Start-Up Brasil is another government-funded program, which attempts to produce a tangible economic impact and homegrown success stories sooner rather than later. Time will tell if these government programs can successfully bring global innovators to contribute to local economies.

Several Asian countries offer a visa or other type of residency permit specifically to entrepreneurs, including Hong Kong’s investment visa, Singapore’s EntrePass, Japan’s visa extension for entrepreneurs, and the Philippines’ investor and employment generation visas.

Finally, it is important not to penalize employers who want to attract the skills and experience they need, even if that means foreign talent. In fact, attracting foreign talent can support investment in the local workforce because it creates a virtuous cycle that allows highly skilled workers from other countries to train local employees. In addition, we see that the creation of one job in the high-tech sector of a region is associated with the creation of 4.3 additional jobs in the local goods and services economy of the same region in the long run. Singapore has put in place a policy to promote employment of Singaporeans over outsiders, and experts advise this will make Singapore less competitive than other leading Asian cities, such as Hong Kong.

As part of the Jobs Act, a startup visa could create up to 1.6 million new US jobs in just 10 years.
The nature of employment is changing. A job in today’s information economy is different from a job in industrial economy, especially because the Internet enables anyone to work from anywhere on any project. PCG, the largest association of independent professionals in the EU, says there is a rise in people moving away from traditional full-time jobs and “jobs for life.” Instead, they are creating revenue streams from more flexible working arrangements, such as short-term contract engagements, which are more widely available than ever before.20

In a context where companies increasingly rely on technology and problem-solving skills to tackle business challenges, we need to move away from an emphasis on traditional education environments—classrooms and curricula—and toward a broader inclusion of learning opportunities that promote hands-on skills development and can be made available to anyone who’s interested in learning. In education theory, this is also referred to as “authentic learning” where students learn by doing.21

There are a few different ways that governments, schools, companies, and individuals can focus on educational opportunities that complement the traditional system, encourage an entrepreneurial ecosystem, and create a competitive workforce. Short term educational programs, such as classes offered by General Assembly22 and Skillshare23, support entrepreneurs and teach job-specific technical skills like coding or search engine optimization that may not be taught in the formal education system. Similarly, programs that offer workshops and events such as Kstartup24, or provide hands-on experience in creating a startup, such as Startup Weekend25, can increase the quality of the workforce and entrepreneurial mindset of a community. Companies are also supporting education for a competitive workforce by incorporating new platforms for learning into their programs. For example, the online learning resource, Udacity, has partnered with Salesforce to build educational programs for employees26.

Additionally, governments and schools are already rethinking the traditional education system. By adopting technology in the classroom, teachers and students are realizing the enormous benefits of collaboration and teamwork at the center of the learning process. In addition, integrating STEM education into curricula early on can help to build a pool of talent that’s needed to support high-growth, high-tech new businesses. For example, Estonia’s government backed a project in 2012 to teach coding to students starting at age 7.27

Applied experience is another crucial element to fostering a startup-ready workforce. Internship opportunities expose students to the entrepreneurial culture, and break down culturally constructed aversions to the “fail often and fail fast” startup environment. For example, the UK’s

University ventures are 100x more likely to turn into a publicly traded company.
We need to move toward a broader inclusion of learning opportunities that promote hands-on skills development.
Stanford is an interesting case study, but it must be noted that Stanford is an exceptional case and not the norm in terms of university support for entrepreneurs. The Program in Innovation and Entrepreneurship run by Stanford Graduate School of Business targets students outside the business school with ideas that could be commercialized. The three-month, part-time program teaches entrepreneurial skills and introduces participants to external investors and experts.

Steve Blank’s ‘Lean Launchpad’ class, hosted by the Stanford Department of Engineering, plays a similar role for graduate students across disciplines. Harvard’s Innovation Lab (founded by Peter Tufano in 2010) explicitly seeks to bridge the gap between departmental ‘silos’. In addition, Stanford’s StartX program and MITs 100K competition provide opportunities for students to apply their education in real settings, leading to new developments and experienced founders.

Research has found that university-based ventures are more than 100x more likely to turn into a publicly traded company than non-university startups. However, there are challenges with tech-transfer and IP/ownership of products and services built at universities. Evidence shows that companies with roots in American universities that are able to overcome these challenges are particularly promising — 8 percent of these companies will go public in comparison to a “going public rate” of only .07 percent for U.S. enterprises founded outside of universities — a difference of 144x.

There already are university programs in the U.S. that are focused on driving entrepreneurial talent.

Estonia’s government backed a project to teach coding starting at age 7.
IPOs are 30% higher at companies with more equalized gender distribution.

Promote workplace diversity

The impact of diversity is an ongoing topic of discussion, and a complicated issue because diversity can be defined in different ways in countries around the world. We see that a diverse workforce encourages different ways of thinking, new products and services to support a wide range of users, and creative problem-solving techniques. Governments can adopt dynamic approaches to support new business development by proactively supporting diversity in the workplace.

One area we have initially focused on is gender. Governments can start by addressing the gender gap. Research shows that by narrowing the gender gap, employment will increase global income per person by as much as 20 percent by 2030. The overall median proportion of female executives is 7.1 percent at successful companies and 3.1 percent at unsuccessful companies, demonstrating the value that having more females can potentially bring to a management team. Moreover, for startups with five or more females, 61 percent were successful and only 39 percent failed. Companies with more equalized gender distribution have 30 percent higher IPO’s. Further, it is estimated that boosting women entrepreneurship and employment could lead to significant increase in countries GDP. For example, Japan could see a 9 percent increase in its GDP by boosting women’s entrepreneurship and employment; the United Arab Emirates could see a 12 percent increase in its GDP.
Density
Even when great minds do not think alike, pooling ideas together can result in something really great. Creating a density of talented thinkers and makers dramatically increases the potential for successful ventures to emerge. Countries can foster startup density by supporting cluster growth, creating physical hubs, driving awareness in the media, building networks with mentors and linking academics and research networks with businesses.
Support cluster growth

Business clusters have proven to be successful environments for entrepreneurship and economic growth. Clusters are dynamic ecosystems in which all actors contribute to their vitality and success, and not just in the technology industry. This is true of other sectors as well, as we have seen with automotive clusters in England and Germany. AnnaLee Saxenian, Dean of the School of Information at UC Berkeley and expert on regional development, notes that, “Proximity facilitates the repeated, face-to-face interaction that fosters the mix of competition and collaboration required in today’s fast-paced technology clusters.”

These examples suggest that successful government policy to develop clusters means focusing on a city or area of town and providing funding and support for the innovation hub. According to the National Bureau of Economic Research, “The first step in cluster development is to identify the candidate cluster by geography, industrial composition, and existing networks. Government funds can be awarded to do this initial study, or private organizations may commission this work to raise awareness and use in applications for government funding in the future.”

However, some government-sponsored business clusters have failed when governments lead instead of entrepreneurs. For example, in Egypt, the former regime built a large technology cluster outside one of the Cairo suburbs—the Smart Village. The problem is that there is no public transportation and by car it takes over 90 minutes to get there from central Cairo. The result is that entrepreneurs could not build companies there, and it is used strictly by multinationals. Instead, a successful cluster, The GrEEK Campus, is an entrepreneur-led effort to build a technology cluster in downtown Cairo.

Governments can also promote private sector investments in entrepreneurship ecosystems. In the UK, private sector investment is helping to build a startup culture in East London, where Virgin Media launched the pilot of their 1.5 bps service and Google has opened its Campus.

Tony Hsieh’s Downtown Las Vegas project is a great example of focusing on cluster growth. The project has invested $350 million to aid in the revitalization of Downtown Las Vegas ($200 million in real estate, $50 million in small businesses, $50 million in education, and $50 million in tech startups through the VegasTech Fund). The project focuses on adding density of ground level activities, spaces, and businesses to increase “collisionable hours” where residents, employees, and regular visitors (they call them “subscribers”) walk around/eating at a cafe/drinking at a bar. A number of other cities have seen growth generated by clusters of startups in recent years. London, New York, and Berlin have all witnessed an explosive growth in entrepreneurial activity with the proliferation of startups using web technologies to found and grow their businesses. This has been possible thanks to a combination of policies focused on fostering and attracting a skilled talent pool, incentives for investment in technology-driven businesses, a strong business community support network, and reliable transportation that facilitates movement to, from, and in a city.

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According to a new report by Populus, Campus has helped UK startups create nearly 2,000 jobs and raise over £20 million in investment in the last year alone. Cisco has also pledged $500M through the British innovation gateway initiative with a strong focus on East London.

Yet, even though governments can influence the development of these clusters at a local and regional level, entrepreneurs must drive development. Identifying and supporting natural agglomeration is important but policymakers should also be clear that “entrepreneurs must lead the development of any startup community, and empowerment of individuals is the best tool for creating meaningful change in yours.” Usually, half the process involves identifying and magnifying opportunities that entrepreneurs already see. In the examples provided, it is easy to see that these successful areas for technology startups typically align with young creators in artsy, trendy urban areas. These areas often have reasonable rents, which keep the barriers to entry and costs low for prospective investors and entrepreneurs. They also attract creative young people who are less risk averse.

The GrEEK Campus, is a successful entrepreneur-led effort to build a technology cluster in downtown Cairo, Egypt.
Many successful startups, like Instagram, are born in coworking spaces that create a supportive environment to foster new businesses and provide training, networking opportunities, access to finance, and other activities. They serve as a homebase for the startup community, and if possible, a free event space for education, demo days, and opportunities to convene. They also provide a focal point for investors, mentors, and others looking to support the startup ecosystem. Physical hubs differ from clusters in that a physical hub is usually a single building or a campus environment, while cluster describes businesses—including physical hubs—spread across a larger geographic area (e.g., a city).

Government-led spaces sometimes struggle to gather momentum for a variety of reasons, including the logistical challenges of government procurement and bureaucratic red tape. Govern-


1871 Chicago was one of the first and largest tech hub spaces in the U.S. It created startup density in one building using a space that is heavily supported by the local government.

When creating physical hubs, it is important to also keep in mind lessons learned from initiatives that have not turned out so well. Entrepreneurs from Berlin say that the government invests millions to support growth in entrepreneurship, yet it is not entirely effective: the government bought buildings by the airport, a part of the city that is not densely populated nor culturally attractive. The Hong Kong government invested heavily in Cyberport, a large space for entrepreneurs to rent cheap space and to work alongside other, like minded, entrepreneurs. However, Cyberport is relatively far from the city center and the project has not been able to attract enough entrepreneurs to make the space a success.

Physical hubs not only provide a place for entrepreneurs to work, but also support mentors connecting with startups through programs, events, and meetups. iHub in Nairobi, Kenya provides a good example of the creation of a physical focal point for the community which is now growing rapidly, attracting investment, and encouraging young people to be entrepreneurs in an emerging market.
It is important for leaders to tell the story of the community and for entrepreneurs in the community to drive awareness and celebrate success. Through marketing and promotions, attracting more investors, and using convening powers to bring people together, governments can help create a positive environment for creating the necessary density of networks. By publicly touting entrepreneurial success, cities can attract even more talent—and, subsequently, more investment from Venture Capitalists and Angel investors. The Knight Foundation’s engaged communities strategy helps support the success of communities and promote engagement to increase entrepreneurship. The Knight Foundation in collaboration with The Atlantic’s “City Lab” kicked off “Startup City: Miami” a conference where Miami’s mayor, Philip Levine, highlighted Miami’s potential to become a tech startup hub.

Policymakers can also boost awareness among highly skilled immigrants of the opportunities in a city or area. Immigration policy is determined at the national level, but local governments can raise awareness of the opportunities available to skilled immigrants. The U.S. National Bureau of Economic Research reports that “local leaders can take simpler steps to make their cities more attractive to immigrants (e.g., educating local employers about visa programs, providing online information about the city to immigrants), should they want to expand this input into their economy. Michael Bloomberg, for example, has been particularly vocal on skilled immigration topics and aggressive in his support of recruiting skilled immigrants to New York City.”

“Local leaders can take simpler steps to make their cities more attractive to immigrants.”
Build networks & mentors

Actively sharing ad hoc and specialized knowledge among entrepreneurs is vital to building community. Sharing information about new technologies, success stories, desired skills, and experts in the local market are great for innovators. Meetups such as Silicon Roundabout in London provide a community where entrepreneurs can meet to share ideas and lessons learned in a casual, social setting. Startup Grind is another global startup community designed to educate, inspire, and connect entrepreneurs. It hosts monthly events in more than 85 cities and 35 countries, featuring successful local founders, innovators, educators and investors who share personal stories and lessons learned on their roads to success. Le Web is Europe’s largest tech conference where each year startups and web entrepreneurs can gain valuable networking with thought leaders, VCs, and mentors in the digital community. Incubators also provide a program for startups to learn from experienced mentors including Catalyzer in Hyderabad to AppfricaLabs in Uganda.

Many successful programs operate across countries and oceans, connecting existing ecosystems with emerging ones. For example, Blackbox Connect, which welcomed 16 impressive startups from 15 countries in Google’s partner network. Blackbox Connect facilitated meetings with a variety of mentors, investors, and academics and equipped them with the Silicon Valley connections and resources to enable them to scale their business globally. Platforms like F6S create a community for startups to find mentors, employees, resources, and more. Some countries have even used their expatriates in Silicon Valley as points of contact to build networks with innovators in their home countries. Take TechWadi, for example, which is the leading non-profit organization building bridges between Silicon Valley and the Arab world. In addition, The Indus Entrepreneurs (www.tie.org), founded in Silicon Valley by entrepreneurs and professionals with roots in the Indus region, offers a global network that supports the next generation of entrepreneurs.

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Stanford alumni and faculty have created nearly 40K companies and 5.4M jobs with annual revenues of $2.7 trillion.
Many successful clusters build on existing networks between universities and business. A study found that the alumni and faculty at Stanford University have created nearly 40,000 companies and 5.4 million jobs since the 1930s, generating annual revenues of $2.7 trillion. As discussed in the Talent section of this paper, Stanford offers many hands-on opportunities linking students with business.

Helping to establish a pipeline between university research and startup formation encourages entrepreneurship. The UK Government has created the Catapult network of technology and innovation centers aimed at bridging the gap between the research taking place in universities and the commercialization of technology. Catapult brings businesses together with researchers to drive additional economic benefit from academic research—one of the UK’s strengths.

Entrepreneurs cannot and do not exist in a vacuum; they need to be able to access and build on cutting-edge research and ideas produced by universities and other businesses. The benefits of strong connections between business and academia include funds for joint research, development of standardized licenses to facilitate technology transfer, and coordination of seed funding for university spin-offs. In some cases, existing government funding of sometimes high risk academic research results in great new ideas for products and services. Universities can even be conveners and support these networks by bringing investors, entrepreneurs, and mentors together.
Culture
Open and risk-taking culture

Culture is a critical asset of a startup community. Governments develop a culture conducive to entrepreneurship by highlighting entrepreneurs as role models, celebrating failure as the next step to success, promoting jobs for startups, and fostering public-private communication.
Successful entrepreneurs are symbolic for aspiring entrepreneurs. Promote the successful entrepreneurs in your market—tech or otherwise—and make a point of telling the whole story—not just their success, but also their failures and how they recovered. Throughout a community, all actors can play a part in really showing off entrepreneurs. Universities and student groups can create programs that encourage students to make their business ideas happen. Companies can promote entrepreneurs within their organizations; and entrepreneurs themselves can organise to promote entrepreneurship collectively.63 Governments have a role to play, too, and can design campaigns to celebrate entrepreneurs and entrepreneurship. For example in March 2014, the Dutch government published a letter supporting startups including funding (225m Euros).64 Similarly the Punjab government in Pakistan has taken great strides to promote the blossoming startup sector there—successfully generating a number of positive stories in global media.65

A work culture where bringing your mistakes to the table every week is a normal thing to do, it feels less like failing and more like learning.
The appetite for radical change is what drives the culture of Silicon Valley, where the mantra of innovation is, “Fail often and fail fast.” But failure as a virtue is counterintuitive, and a fear of failure has been shown to hinder innovation in some places. An article from Tech Chomp’s blog hypothesizes why Australians may not have “big-picture thinking:” because while they are comfortable with success, they do not do so well at embracing failure. It notes that “If you have a work culture where bringing your mistakes to the table every week is a normal thing to do, it feels less like failing and more like learning.” Research from Europe finds that many would-be entrepreneurs do not start a company because of their fear of the consequences of business failure (bankruptcy); therefore bankruptcy laws that do not over-penalize failure are extremely important. In fact, one report notes that businesses set up by re-starters actually grow faster than business set up by first timers in terms of turnover and jobs created. Another study by the Inter-American Development Bank shows that one reason women may not achieve as much success as men is because they have fewer startup cycles compared to men who go through 4-5 cycles and learn from failure and grow each time.

A culture of innovation thrives on risk takers, but it takes time to build a community of role models who can show that taking risks—and sometimes failing—pays off. One way the entrepreneurship ecosystem is trying to stop “failure” from being a taboo topic is through FailCon, a one-day conference started in 2009 for technology entrepreneurs, investors, developers, and designers to study their own and others’ failures, learn from these experiences, and prepare for success. Establishing connections with Silicon Valley and other successful startup communities can also help foster this kind of culture via networks that support young, growing companies.
85-90% of jobs will require **ICT skills** by **2020**, according to CEDEFOP.
Career training and education focuses on career paths for a variety of vocations, but outside of traditional business schools, “entrepreneur” is usually not one of those. But like any other job, entrepreneurs benefit from learning certain skills to succeed. According to a European study, Information and Communication Technologies (ICT) skills are ‘gateway skills’ without which a person’s likelihood of finding employment is significantly reduced. 85-90 percent of jobs will require ICT skills by 2020, according to CEDEFOP. ICT skills can include data driven analysis, statistics, computer science, coding, etc. While business school or a formal entrepreneurship training are not prerequisites, arming young people with skills will give them confidence to take risks and follow a less traditional career path. To help, governments can initiate a pilot program and work with traditional companies to encourage students to learn the skills to become entrepreneurs, while guaranteeing a position in case their startup fails.

Community initiatives can also promote jobs for startups. Take, for example, Silicon Milkroundabout in London. This organization was created by London-based startup Songkick to encourage graduates to consider employment in London’s high-growth technology startups, rather than the traditional graduate training programmes offered by blue-chip corporations. Another example, Silicon Valley Comes to the UK, was created in 2007 by serial entrepreneurs to encourage students to consider the impact they could have if they were to start or join a high-growth business. It is entirely led by entrepreneurs with support from students who run events around the UK and Europe.

Communication between the public and private sectors encourages a direct dialogue with the community, creating a positive feedback loop through which businesses can help government develop policy that supports innovation. In a policy brief, “Inside Tech City,” the Lisbon Council notes: ...the [UK] government uses its muscle primarily to do two things. First and foremost, it helps the cluster generate business and attract investment by boosting its profile on the global stage through official patronage. But it also facilitates and encourages a direct dialogue with the community itself through regular meetings and events. Monthly breakfasts at 10 Downing Street and regular town hall meetings bring policymakers and the tech-business community together, and have led, for instance, to the creation of an ‘entrepreneur visa’ introduced to bypass new immigration restrictions which businesses say are depriving them of the talent they need.
Capital
Whether a business is just getting started or is trying to scale, financing is critical for success. Experienced capital can really make a difference for new companies, and experienced investors can help coach founders along their journey. Policymakers can proactively take measures that make it easier for startups to access capital and can create tax incentives for investors to help create more of that capital. However, governments need to strike the right balance between raising revenue and taxing capital.
Public money alone cannot finance small-and medium-sized enterprises (SMEs), but public money is very useful as seed money to lure private investors. This lesson is being applied in Singapore, where the government has adopted a "matching" model. This model has led to a number of international venture capitalists locating in Singapore and investing in regional businesses. For example, 500Startups and Golden Gate Ventures, U.S.-based venture capital funds, are located in Singapore because of the government capital matching program. In total, Singapore has seven government-sponsored tech incubators, with the government providing up to 85 percent of the investment.

Another great example of public finance is the Inter-American Development Bank’s Multilateral Investment Fund (MIF) which has offered $2B in matching capital and training to new VC firms and angel investors/networks across Latin America and the Caribbean (LAC) since 1993. It is the most comprehensive and effective program and has supported growth in entrepreneurship across LAC. According to Susana Garcia-Robles, the Principal Investment Officer in charge of MIF Early Stage Equity Group, “the focus...[is] to try to help the LAC region be more competitive vis a vis other regions.”

Similarly, the government in South Korea is one of the main investors in the country’s venture capital scene. Last year, it pledged USD$2.9 billion in funding and loans for startups in the tech sector. In Ireland, a government agency called ‘Enterprise Ireland’ provides information, funding (matching private funds) and resources to startups. In 20 years more than 850 companies have been created with a success rate of 79 percent and 14,000 new jobs.

Governments should improve support and offer financial packages tailored specifically for entrepreneurs. According to a report from the Lisbon Council, only 2 percent of startups in the EU have VC funding compared to 14 percent in the U.S., but the European Union is working to help SMEs grow. For example, the European Investment Fund (EIF), the venture capital arm of the European investment Bank (EIB), offers a variety of initiatives that provide access to finance for SMEs. Its European Angels Fund is a co-investment fund that provides equity capital to angel investors. They have also created an Innovation Platform to foster cooperation between strategic corporate investors, fund managers, and portfolio companies.

However, making funds available does not guarantee success. Government funding structures should be designed to meet and change with the needs of the local ecosystem, keeping in mind that more money does not necessarily lead to success. For example, policymakers in Italy and Spain should consider increasing the amount of seed stage funding, while Berlin and London have plenty of seed funding but need access to series A and B rounds.

Early stage capital is a nascent sector in many countries. However, we have seen another way for entrepreneurs to access capital through crowd-funding, which allows many people to provide any amount of money to fund a project. Today, there are several crowdsourcing platforms. Every day on Indiegogo, one of the world’s most popular crowd-
funding platforms, 8,000 small firms or individuals around the planet to try to raise funds from members of the public to support their business idea or other project. Indiegogo competitor Kickstarter has helped raise over USD$1 billion to finance over 58,000 projects. In Europe, SEEDRS is a crowdfunding startup for new ventures which recently received FSA approval and in Asia Fundator operates a similar model. These initiatives allow companies to generate the equivalent of seed rounds through raising money from non-accredited investors. This does not include offering equity in the company and does not require a lead investor.

**Kickstarter** has helped raise **$1 Billion** to finance over **58,000** entrepreneurial projects.
Create incentives for new and experienced investors

Tax incentives can greatly increase the attractiveness of high risk investment. According to Carlos Espinal, partner at Seedcamp, “Ecosystems that have government support to help investors invest more, generally manage to unlock a stored pool of capital that can be repurposed to help stimulate the economy.”

In addition, markets that have experienced investors are at an advantage. Experienced investors provide expertise to founders along their journey, rather than merely auditing a company’s financials after the fact, the way a public company analyst may. Governments should attract experienced capital, encouraging these investors to reinvest and create a virtuous cycle that leads to more experienced investors.

United States tax law offers one example of effective investment incentives. The law defines a class of business—“qualified small business”—for which there are tax breaks to encourage investment. U.S. tax code also allows taxpayers other than corporations who have held stock in a qualified small business for more than 6 months to defer the gain on the sale of such stock if they reinvest the proceeds of the sale in another qualified business within 60 days of the sale. This is a very good incentive to encourage investment in startup companies, although a period longer than 60 days would give investors more time to identify and invest in another company.

In Australia, there are currently no general tax incentives for investors to invest in small businesses. Compare this to the UK, who recently took a different approach with the introduction of their Seed Enterprise Investment Scheme (SEIS). SEIS encourages startup investment by offering a straight 50 percent tax break to those investing up to £100,000, regardless of the investors’ normal tax rate. This type of measure greatly makes high risk investments more attractive to investors. The UK program is more generous than the U.S. qualified small business scheme in that it enables tax relief in the tax year that the investment is made, but it has also been criticized for having unwieldy rules that discourage regular retail investors. Meanwhile, in Israel the country’s technological incubator programs offer 2-year programs with 85 percent of the budget financed by the government. Israel also offers investment incentives that decrease corporate tax rates.

Governments can share, promote, and support best practices with regard to tax incentives for digital entrepreneurship and encourage more people to reinvest their gains in digital businesses. In the UK, experts have been calling on the government to consider the case for a capital gains tax rollover relief for shares in order to attract and encourage a wide range of investors, particularly those eager to reinvest their gains in new businesses. Other ways to create incentives for businesses is through ‘Employee Share Option Plans,’ where governments can defer taxation of stock options until the point of exercise in situations where employees are taxed up front, at time of grant.
The UK recently introduced Seed Enterprise Investment Scheme (SEIS). SEIS encourages startup investment by offering a straight 50% tax break to those investing up to £100,000.
Regulatory Environment
Governments have a role to play in creating a stable, predictable, and supportive regulatory environment for entrepreneurs. Investors and entrepreneurs alike need a supportive regulatory environment. As the policy and regulatory environment increasingly define the scope for new innovations in this field, the way regulations are designed can have a significant influence on how investors think about the location of innovators and the destination of their investments. Venture Capital investors argue that countries in Asia and Europe could get an edge in the competition over investments if they offered a policy climate more hospitable to online entrepreneurship than in the United States. And for entrepreneurs, overly burdensome regulations have prevented young French entrepreneurs from setting up businesses at home, so they are migrating to the UK, where they find it easier to get ahead.

In order to create a supportive regulatory environment, countries should focus on the ease of starting and closing a business, tax policy, intermediary liability protections, maintaining a global web, patent protection, formalizing alternative funding models, and R&D.
The rules and regulations to register and set up as well as wind down a business can be cumbersome, but many governments are working to ease the burden on entrepreneurs by making it easier to start and close a business. Putting registration processes online, reducing or eliminating minimum capital requirements, simplifying post-registration procedures (tax registration, social security registration, licensing), creating one-stop shops for registration, and reducing bankruptcy penalties are a good place to start.

The World Bank’s 2014 Doing Business report notes that some governments have already recognized that implementing such reforms can jumpstart entrepreneurship. For example, in Dubai, businesses are to be offered a “hassle-free” trade licence valid for four months, allowing them to start operating immediately rather than waiting weeks or months for government approvals. The UK has initiated a “Red Tape Challenge” to explore ways to fulfill regulatory requirements in the least burdensome way possible. The Obama administration aimed to lower filing burdens for new businesses in the 2011 JOBS Act. In Portugal, cutting the time and cost of firm registration increased the number of business startups by 17 percent and created about 7 new jobs a month per 100,000 county inhabitants in eligible industries. To compare countries, the 2014 Doing Business report ranks the UK as #7 in “ease of starting a business” based on the number of procedures, the number of days and cost, compared to the U.S. which falls on #4, France at #34 and Brazil at #130 while Singapore is at #1.

Streamlining administrative processes not only helps businesses get started, it also helps companies close in the event of failure—and failure is part of startup culture. The World Bank recognizes improvements in this that include “creating specialized bankruptcy courts, expediting insolvency proceedings, making business operations during reorganization easier and regulating the profession for insolvency representatives.” In addition, reducing the stringency of bankruptcy legislation from the highest to the average level in the OECD could raise capital flows to patenting firms by around 35 percent.
Focus on tax policy

Tax policy can be a very effective policy lever to influence entrepreneurial activity. Companies of all sizes want a predictable and stable tax system in order to do business.

Governments can support entrepreneurs by providing that stability and can use their tax systems to create incentives for investment, risk-taking, and capital formation. Here are a few ways to do this:

CORPORATE TAX Competitive corporate tax rates make a country an attractive place to invest and to grow a business. 101

TAX BREAKS FOR HIRING Governments have used tax holidays and other incentives to encourage entrepreneurs to hire new employees. One example is the CICE, a tax credit in France equal to 6 percent of certain wages paid to salaried employees in a given calendar year. (Eligible salaries must not be more than 2.5 times the French minimum wage.)102 In addition, other R&D tax credits offer recovery of expenditures including wages.103

TAX REBATES Governments can create an “up front” tax break for initial investments in start-ups. As noted previously, the UK introduced their Seed Enterprise Investment Scheme (SEIS), which encourages startup investment by offering a straight 50 percent tax break to those investing up to £100,000, regardless of the investors’ normal tax rate.104

CAPITAL GAINS TAX RELIEF Governments can establish lower capital gains tax rates for capital that is reinvested in new businesses (U.S. model). This way founders are more incentivized to re-invest in their own company or other startups.

INCOME TAX BREAKS FOR ENTREPRENEURS Governments could pursue an income tax break up to a specific amount for individuals who start new businesses. The Irish government targeted such a tax break at individuals who had been unemployed for over 15 months.

RESEARCH AND DEVELOPMENT TAX CREDITS Governments can encourage innovation by providing tax benefits for companies that invest in R&D. For example, The French R&D tax credit, “Crédit d’impôt recherche”, is a tax credit ranging between 30 percent and 40 percent of the qualifying R&D expenses (including costs of research personnel and depreciation).105 In addition, Canada offers SR&ED, a federal tax incentive program to encourage businesses of all sizes, particularly small to medium and startup businesses, to develop new or improve existing products, processes, principles, methodologies, or materials. Eligible businesses can recover up to 64 percent of their expenditures including wages, materials, machinery, equipment, travel and training expenses, property taxes, utility expenses, and overhead.106

In addition, simplifying tax compliance is also an entrepreneur-friendly policy. In some countries, Value Added Taxes and/or sales taxes create cumbersome and time-consuming paperwork for businesses. Simplifying and digitizing these processes, including tax payment, reduces burdens on small businesses. The World Bank notes that today firms can file tax returns electronically in 76 of the 189 countries covered in 2014’s Doing Business report.107 For example, companies in Sweden pay taxes only twice per year, and spend 122 hours per year on the necessary procedures, compared to 15 annual tax payments required in Italy, which takes up to 285 hours of work time from small and medium businesses.108
Internet services like email, video conferencing, or online storage solutions help SMEs to reduce their expenses and increase their productivity. These services lower the barriers for small businesses, stimulate employment, and drive entrepreneurship. In Europe, online services contributed €430 billion to GDP in 2012. Of this, they generated €210 billion by improving the productivity of other companies and different economic sectors. The OECD also recognizes that “The ability of new and small firms to innovate is considered crucial to ensure long-term and sustainable growth, since SMEs tend to harness technological or commercial opportunities that have been neglected by established companies and bring them to market. In this context, platforms that help new firms to be established and grow are crucial to the innovation performance of an economy.”

The best way to get the economic benefits of the internet while also supporting local laws and deterring illegal content is to support “safe harbor” laws for internet companies. Since the early days of the web, safe harbors have provided the rules of the road for the information economy. They guarantee that as long as an online platform meets certain conditions, it is not liable for the acts of its users. This has allowed companies to build businesses and platforms with a clear understanding of what they are and are not legally responsible for. Safe harbors provide SMEs with the legal certainty needed to attract investors and to innovate and design new products. Examples of such laws include the U.S.’s Communications Decency Act Section 230, the Digital Millennium Copyright Act, and the European Union’s e-Commerce Directive.

**Corporate Tax** can make a country an attractive place to grow a business. Tax breaks, and rebates **can encourage innovation.**
Enable a free and open global web

Entrepreneurs are able to grow their businesses, sell goods through global markets, and offer services virtually anywhere because of the open, global Internet. Efforts to stymie the open flow of information through legislative requirements, such as data localization, will restrict that growth and limit the ability of businesses to scale from their home markets to the whole world. The Boston Consulting Group and ICANN found that among small and midsize enterprises, web users are 50 percent more likely to sell products and services outside of their immediate region and 63 percent more likely to source products and services from outside of their region. Governments should resist efforts to impose restrictions on the flow of data that would balkanize the web, which restricts growth by increasing costs and barriers of entry to new markets.

A recent study conducted by ECIPE notes that access to foreign markets through trade liberalization and globalised supply chains are the major sources of growth, jobs, and new investments, particularly in developing economies. Many sectors of the economy rely on digitally supplied services and goods. Given today’s globally interconnected economy, poorly designed national policies that increase data processing costs have a severe economic impact. ECIPE concludes that “the impact of recently proposed or enacted legislation on GDP is substantial in all seven countries: Brazil (-0.2 percent), China (-1.1 percent), EU (-0.4 percent), India (-0.1 percent), Indonesia (-0.5 percent), Korea (-0.4 percent), and Vietnam (-1.7 percent).” In addition, UC Davis professor Anupam Chander noted in a recent paper that hindering the global flow of data by forcing data localization “raises costs for local businesses, reduces access to global services for consumers, hampers local start-ups, and interferes with the use of the latest technological advances.”

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Artists and entrepreneurs are using the Internet to create fantastic new works. Platforms like YouTube have launched careers and created entirely new markets that reach a huge audience. Today over a hundred hours of video are uploaded to YouTube every minute.

Innovation and creativity have always relied on both copyright protection and limitations to copyright, and that remains true online. The Internet and information technologies are key drivers of the economy and cultural development, and copyright law’s delicate balance has been essential to enabling this. Consider, for example, how journalists quote third-party content in their articles, or how consumers were able to use VCRs to record their favorite television shows. Today, copyright’s limitations are essential to the functioning of online services like Google, YouTube, Facebook, Flickr, Twitter, and beyond.

In order to maximize innovation and creativity, countries should adopt exceptions that allow the market, new technologies, and new types of creativity to evolve. As opposed to providing narrow black-and-white exceptions adopted at a fixed point in time, countries should also adopt flexible, purpose-based standards so that new legitimate uses of copyrighted content can be developed. The benefits of flexible exceptions are demonstrated in countries where such laws already exist; in fact, in the U.S., a recent study found that industries that depend on fair use contribute $4.4 trillion to GDP.\(^{114}\) And the introduction of a flexible exception regime in Singapore helped grow the economy.\(^{115}\) Industries that rely on limitations not only drive incredible content creation today, but also significant economic benefits.

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**Create flexible limitations to copyright**

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A robust yet balanced patent system is good for innovation. Real innovation should, and must, be protected. But no one should be able to patent the obvious or use patents as economic weapons. Some of the greatest innovations in software have resulted from collaboration on open source software and that collaboration has generated billions of dollars in economic activity.

However, the patent litigation scene is spiraling out of control. Over 5,100 patent actions were filed in 2012, an increase of 29 percent since 2011. Median damages range between $1.9 million and $16.5 million, spurring a “lottery effect” for patent holders who spam the system with frivolous suits for the chance at a big payout. The system is ripe for manipulation by patent trolls. Last year, patent trolls generated $29 billion in direct costs from patent litigation. This is the equivalent of eleven Mars Rover missions. Patent trolls do not make anything; their business model is to acquire low-quality patents and use the threat of expensive litigation to extort settlements. Studies have shown that litigation can cost up to $1.75 million in legal costs, taking valuable time from executives and engineers that would be better spent on developing new products. Small- and medium-sized entrepreneurs cannot afford to fight back. In order to protect entrepreneurs—and innovation at large—from this harmful behavior, reasonable patent systems should:

**MAKE IT EASIER TO RECOVER ATTORNEYS’ FEES FROM PATENT TROLLS.** The threat of having to repay attorney fees to defendants will discourage patent trolls from filing frivolous lawsuits in the hopes of getting rich.

**WEED OUT BAD PATENTS THAT EXIST.** We need fast-track PTO review for bad patents that are used by trolls as their weapons of choice and give companies an alternative to expensive litigation in the courts for patents of questionable validity.

**GRANT SOFTWARE PATENTS ONLY WHEN AN INVENTION IS USEFUL, NOVEL, AND NOT OBVIOUS.** The application must be detailed and the scope of the patent should be clearly defined so that subsequent inventors can understand and design around patented inventions. Reducing the number of overly broad functional patents will reduce the abuse of the patent system.
Crowdsourcing platforms like Kickstarter and Indiegogo provide entrepreneurs with access to new forms of capital. These platforms sometimes operate in opaque regulatory environments. In Europe, where national policies regarding crowdfunding differ from one Member State to another, it is essential to harmonization of the single market that the EU work toward an overarching policy structure for crowdfunding.  

Research and development underpins much high-growth entrepreneurship. Focused government programs can provide incentives for businesses to engage in more R&D. For example, South Korea has transformed into an economic heavyweight, having systematically applied substantial resources to research and development. As a result, South Korea has become the world leader in patent activity and information and communication technology.
South Korea has transformed into an economic heavyweight, having systematically applied substantial resources to research and development.
Conclusion

As we noted at the start of this paper, new ideas come from everywhere. With the right ingredients including talent, density, culture, capital, and a supportive regulatory environment, startup ecosystems can succeed in many cities around the world. We understand that governments play a large role in supporting these communities:

**Talent**

Programs like the proposed US “Startup Visa” and Startup Chile, the government’s successful pilot program to bring global innovators to contribute to their economy, are ways governments can invest in human capital.

**Density**

Supporting innovation hubs as we have seen in New York and Berlin, driving private sector investment in Tech City in London, and creating physical hubs such as iHub in Nairobi can foster startup density.
By celebrating failure through conferences like Failcon, opening a dialogue between entrepreneurs and policymakers like the breakfasts at 10 Downing Street have done, and promoting jobs for startups, governments can help create an entrepreneurial culture.

Efforts including Singapore’s matching funds or Israel’s subsidized incubator programs provide access to capital, which is critical for new and growing businesses.

Finally, a stable, predictable, and supportive regulatory environment is crucial to creating the necessary conditions for a thriving startup ecosystem. Tax policies can help companies start and grow, safe harbors allow companies to flourish, the free flow of information enables companies to compete globally, and intellectual property protection with flexible limitations to copyright and patent protections support innovation.