

Binzagr Institute for Sustainable Prosperity

People. Planet. Prosperity.

The Cost of Unemployment and the Job Guarantee Alternative in Saudi Arabia

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Foreword

President Franklin Delano Roosevelt once remarked that, “The test of our progress is not whether we add more to the abundance of those who have much, it is whether we provide enough for those who have little.” We live today in a world of abundance and what is needed is for us to break the chains of economic ignorance and understand the nature of modern money. This is necessary in order to understand that what matters is not mere accounting information, but *real resources* such as the people, the land, the mines, and the farms.

As Nobel Prize winning scientist Frederick Soddy once said, “there is no longer a valid physical justification for the continuance of poverty.” The longer a person is unemployed the more they become unemployable. Social, physical and mental health problems begin to set in, followed by the breakup of families, the very fabric of communities and society. This can all be avoided if we maintain a buffer stock of employed labor as opposed to a buffer stock of unemployed. As this report confirms, the high costs of unemployment can be reduced and even eliminated with such a Job Guarantee program.

Ask any businessperson if they would rather employ a person who has been working—regardless of the job—or a person who has not been employed and the answer is apparent. It is of far greater value to create dignified employment opportunities for everyone ready, willing and able to work rather than leaving them standing in the unemployment line, collecting benefits that do not ensure self-respect, as their skills start to decay and poverty sets in.

As Professor L. Randall Wray has remarked, we build homes for the homeless why not build jobs for the jobless? In this study, we provide clear evidence demonstrating that, in the Kingdom of Saudi Arabia, a nation with so much wealth,

there is no reason that any human being who is ready, willing and able to work should not have the opportunity to work in a job that maintains and even increases human dignity. The costs of such a program are even smaller than the costs of not having it at all. In a nation where a great percentage of the jobless are youth, a larger proportion of them women, the majority of nationals are not employed in the private sector. We offer a proposal that would change this by offering the opportunity of dignified work for all, and end unemployment in the Kingdom of Saudi Arabia. Let this program usher in a new era, an era where we say no to poverty, no to the concentration of wealth, and no to the way of thinking that insists that unemployment is a necessary evil to maintain a healthy economy. Let us usher in an era of dignified and humanistic employment for every person who is ready, willing and able to work.

Saeid M. O. Binzagr

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Executive Summary

Youth unemployment, especially for women and university graduates, is one of Saudi Arabia's most important challenges. The purpose of this study is threefold. First, we estimate the economic cost of unemployment in Saudi Arabia. Using a very conservative empirical methodology, we find that the cost of unemployment (for 2 million unemployed), in terms of lost output, is 851.5 billion SAR annually (\$227.09 billion or 29.97% of GDP). We stress that there are additional social and psychological costs associated with unemployment that we did not include in our estimates. Therefore, the overall annual cost of unemployment in Saudi Arabia is much higher than 851.5 billion SAR. Second, we propose a Job Guarantee (JG) policy framework that would ensure employment for anyone who is ready, willing, and able to work. Our proposal outlines the benefits of the JG program and its non-inflationary nature, and suggests two alternative financing mechanisms to implement the program in Saudi Arabia. We estimate that the total cost of the JG program (employing 2 million Saudis, with a salary of 5,000 SAR plus health and retirement benefits, and accounting for the program's material costs) would not exceed 151.8 billion SAR (\$40.9 billion or 5.4% of GDP). Third, the study recommends focusing JG employment in a number of strategic areas that will increase diversification of the Saudi economy, capitalize on the skills and aspirations of Saudi youth, and enhance overall quality of life for all members of society. Of particular importance are: technical education and vocational training, strategic School-to-Work programs in green construction and solar industry, public health & wellness, cultural heritage preservation, and media and new technologies. The study ends with a number of policy recommendations regarding labor market reforms to increase female labor market participation and improve the overall Saudization rate in the private sector.

Introduction

There is perhaps no single policy with as many potential benefits as job creation; benefits are not only for those who obtain employment, as a result, but also for families, neighborhoods, communities, nations, and regions. Full employment is good for everyone: employees and employers, children and the elderly, men and women, inhabitants of both cities and the countryside. And a well-designed program can benefit both the economy and the environment. In part, these benefits are due to the fact that unemployment and underemployment have tremendous economic and social costs for individuals, communities, and society at-large. Once the costs of unemployment and benefits of job creation are considered, it becomes clear that the question is not, “can we afford full employment?” but rather, “how can we possibly continue to bear the burden of the costs of unemployment?”

One of the reasons why the benefits of employment generation are often overlooked or underestimated is the tendency to see only one side of employment, the cost. This is why it is crucial to recall that:

- *wages are a cost, but they are also an income*
- *labor is a cost, but it is also a resource*

Wages are income that translates into spending, business sales, revenues, profits, and investment. Labor is a resource that results in production, services, security, and prosperity.

It is in large part because of these facts that full employment is an objective of economic policy in a number of United Nations documents, including the UN Charter and the Universal Declaration of Human Rights. Employment is also central to the Millennium Development Goals. Moreover, it is central to the achievement of many other important goals, including ample and adequate nutrition, housing, and standard of living for all. Full employment is also consistent with the principles of Islamic

economics and the importance of decent work opportunities for all can be found throughout the teachings of the great thinkers in the history of Arab and Islamic economic thought, such as Ibn Khaldun.

Youth unemployment is especially harmful. It creates problems not only for the present, but also for the future. According to the International Labour Organization (ILO), Saudi Arabia's current youth unemployment will result in a reduction in its average rate of economic growth by as much as 2.3%. Often, unemployment in general and youth unemployment, in particular, are said to be due to lack of training and education. However, the unemployed in Saudi Arabia are highly educated. Unemployment among college-educated women is particularly high in the Kingdom.

As important as training and education are, they cannot alone explain unemployment. This is demonstrated by the parable of dogs and bones (Harvey 2000¹). Suppose there are 100 dogs on an island. Every day a plane flies over and drops 95 bones on the island. At least five dogs will be boneless, and perhaps more, as it is possible that some dogs could get more than one bone. We say the boneless dogs do not have enough motivation or have underdeveloped muscles or in other ways lack ability as bone gatherers. We take the boneless dogs aside and train them and put them through various exercises to improve their abilities. The next time the plane flies over and drops 95 bones, some of those who received training may obtain a bone. But as long as we do not increase the total number of bones, at least five dogs will remain boneless. Training and education and other human capital traits may, in part, determine which workers will get jobs and which will not, but for everyone to find employment we need to increase the aggregate number of positions. Full employment requires that there are at least as many job vacancies as people needing work.

¹ Harvey, Philip, 2000, "Direct Job Creation," in A. Warner, et al., *Commitment to Full Employment*, Armonk, NY: M. E. Sharpe.

This report calculates the economic costs of unemployment in Saudi Arabia and compares these to the cost estimates of a program for true full employment through a Job Guarantee (JG) program in the Kingdom. The first section presents the costs of Saudi unemployment due to foregone output using two different methods found in the literature. While these economic costs are extremely burdensome, they are in no way the only costs associated with joblessness. This section also delineates additional social and economic costs.

Section II provides an overview of the Job Guarantee approach to full employment, including the ways in which the program not only provides employment for every person ready and willing to work, but also gives price stability. The costs of the JG program in Saudi Arabia are estimated in Section II. Furthermore, we present two possible means of financing the JG program. Finally, Section III provides examples of the types of jobs being proposed for the program in the Kingdom, including jobs in the fields of health, environment, cultural heritage and new technologies. While these employment opportunities would contribute to Saudi Arabia's prosperity, they also have the added benefit of interesting young people, a demographic group hit particularly hard by unemployment. This study closes with some key conclusions and policy recommendations.

I. Assessing the Costs of Unemployment in Saudi Arabia

1. Economic Costs of Unemployment

In estimating the pecuniary costs of unemployment, economists generally focus on the lost output arising from unemployment and underemployment in an economy. One method of estimating lost output is the “average product” method, which estimates the average GDP per worker and multiplies that by the number of unemployed workers.² This requires an estimate of how many people are unemployed and underemployed in the Kingdom of Saudi Arabia (KSA, hereafter).

In 2011, labor market reforms were implemented in KSA with the stated purpose of increasing private sector employment and providing a safety net for the unemployed. The Ministry of Labor introduced the *Nitaqat* program according to which, private firms are expected to increase Saudi employment and achieve an expected Saudization rate depending on the activity of each private entity. The program classifies the companies into four ranges (red/yellow/green/excellent) according to their Saudization rates and provides companies with exceptional records with benefits and incentives while penalizing companies with poor Saudization rates. In conjunction with the *Nitaqat* program, the Ministry of Labour introduced the *Hafiz* system. The *Hafiz* system was designed to connect unemployed Saudi nationals with potential employers. This program was started in November 2011 to help jobless Saudis, ages 20-35, by paying a monthly financial assistance stipend of 2,000 SAR (\$533) for a period of one year, conditional upon participation in training. In a working paper for the Jeddah Human Resources Forum 2013, Kawar and Jafar report that more than 5 million Saudis

² See Watts, Martin J. and Mitchell, William F., 2000, *The Costs of Unemployment in Australia*, Centre of Full Employment and Equity; and Blaug, Mark, 1993, “Public Enemy No. 1: Unemployment not Inflation,” *Economic Notes of Monte dei Paschi di Siena*, Vol. 22, Issue 3, pp. 387-401.

originally registered with *Hafiz* in 2012.³ Of those, 1.4 million actually received assistance. According to *Hafiz*, the number of people enrolled in the program in 2012 was 1,365,391. We will use this number as the lower bound for the number of unemployed persons in KSA. There are several reasons to believe that the actual number of unemployed is higher than *Hafiz* enrollment. Only those between the ages of 20-35 are eligible for *Hafiz* payments, and they last for only one year, so the total number of unemployed is larger than any single year enrollment in *Hafiz*. Taking into account these factors, we will use the estimate of 2,000,000 unemployed as an upper bound. We still believe this to be a very conservative upper bound estimate given that (a) 5 million people actually registered with *Hafiz*; and (b) according to the Saudi Arabia Monetary Authority (SAMA), only 2.61 million out of 20.27 million Saudi citizens were employed in 2013.

Method 1: Economic Loss in Real GDP Per Unemployed Workers in KSA

According to the Saudi Arabia Department of Statistics & Information, the GDP of KSA in 2013 was \$757.805 billion (2.807 trillion SAR).⁴ According to the Saudi Arabia Department of Labor (Information Center), the total number of employed persons in 2013 was 9,679,635.⁵ Based upon these numbers, the real GDP per person employed in KSA in 2013 was \$78,289 (293,584 SAR).

Table 1 provides an estimate of lost GDP in 2013 in the KSA based upon a lower bound estimate of 1,365,391 unemployed and an upper bound estimate of 2,000,000 unemployed (Table 1). This estimate further assumes that the average productivity lost per unemployed worker is, on average, equal to GDP per worker employed in KSA.

³ Kavar, Mary and Aya Jaafar, 2013, *Creating More and Better Jobs for Saudi Nationals: A Review of National Policy Measures and their Impact*, International Labor Organization.

⁴ Central Department of Statistics & Information, Ministry of Economy and Planning.

⁵ Saudi Arabia Department of Labor (Information Center). Of that number, 92,396 were employed in the oil sector and 9,587,239 were employed in the non-oil sector.

For Estimate 1, the economic loss in real GDP to the KSA is between **\$106.9 billion and \$156.6 billion annually**, which is the equivalent of 400.8 billion SAR and 587.2 billion SAR respectively (Table 1).

Table 1: Cost of Unemployment in KSA (Estimate 1)	
Economic Loss in Real GDP/Output Per Worker (Economy Wide)	
GDP: KSA (Department of Statistics and Information) ⁶	\$757,805,000,000
Total Domestic Labor Force ⁷	
Total Employment	9,679,635
GDP Per Person Employed	\$78,289
Number of Unemployed	
Scenario 1 ⁸	1,365,391
Scenario 2 ⁹	2,000,000
Loss in Output	
Scenario 1	\$106,894,539,593
Scenario 2	\$156,577,184,987

In Estimate 1, we assumed that the average productivity lost per unemployed worker is, on average, equal to the GDP per worker employed in KSA. Given that the unemployed Saudis, especially women, are fairly well educated, we would not expect this difference to be extreme.¹⁰ To account for differences in output per worker in the oil sector and non-oil sector, we present an alternative estimate of GDP per worker based upon employment levels in the non-oil sector.

A claim can be made that the unemployed worker in Saudi Arabia would be employed in the non-oil sector of the economy and the lost GDP per worker estimate

⁶ Central Department of Statistics & Information, Ministry of Economy and Planning.

⁷ Saudi Arabia Department of Labor (Information Center)

⁸ (<https://www.hafiz.gov.sa/>).

⁹ Authors' Calculations Based on KSA databases.

¹⁰ IMF, 2013, Saudi Arabia: Selected Issues, IMF COUNTRY REPORT NO. 13/230.

should reflect that. According to the Central Department of Planning and Information, the non-oil sector accounted for 55.2% of the GDP of Saudi Arabia; the non-oil sector GDP in 2013 was \$418.555 billion (\$757.805 billion *times* 55.23% *equals* \$418.555 billion). According to the Saudi Arabia Department of Labor, the number of people employed in the non-oil sector was 9,587,239. Based upon these numbers, the real GDP per person employed in the non-oil sector in KSA in 2013 was \$43,655 (163,706 SAR).

Table 2 provides an estimate of lost GDP in 2013 in the KSA in the non-oil sector based upon a lower bound estimate of 1,365,391 unemployed and an upper bound estimate of 2,000,000 unemployed (Table 2). This estimate further assumes that the average productivity lost per unemployed worker is, on average, equal to the GDP per worker employed in KSA in the non-oil sector. For Estimate 2, the economic loss in real GDP in KSA is between **\$59.6 billion and \$87.3 billion annually**, which is equivalent to 223.5 billion SAR and 327.3 billion SAR respectively (Table 2).

GDP: KSA (Department of Statistics and Information) ¹	\$757,805,000,000
Non-Oil Sector GDP Percentage ¹	55.23%
Non-Oil Sector GDP	\$418,535,701,500
Total Domestic Labor Force	
Total Employment: Non Oil Sector ³	9,587,239
GDP Per Person Employed in Non-Oil Sector	\$43,655
Number of Unemployed	
Scenario 1 ⁴	1,365,391
Scenario 2 ⁵	2,000,000
Loss in Output	
Scenario 1	\$59,606,825,282
Scenario 2	\$87,310,997,775

Method 2: Economic Loss in Real GDP in KSA (Okun's Law)

A second method of estimating the lost output due to unemployment is based upon the relationship between GDP and unemployment. Okun's Law is a generally accepted empirical observation that describes the negative correlation between changes in unemployment and changes in GDP. In Okun's original work, he found that a 3% increase in real GDP corresponded with a 1% reduction in the unemployment rate, which would imply an "Okun coefficient" of 3.¹¹ Since Okun's original paper, there have been a number of revisions to Okun's methods and extensions to other countries and periods of time. Okun's coefficient has varied by time and country, but most often the coefficient estimate falls between 2.0 and 3.0.

In an update of Okun's Law utilizing data from 1960-1996, the Cleveland Federal Reserve Bank showed that a 1% reduction in the unemployment rate was associated with a 2% increase in real GDP.¹² Jim Lee (2000) tested Okun's coefficient for 16 OECD countries and found that the mean Okun coefficients under alternative econometric specifications (Difference Model and Gap Model) ranged from 2.04 to 2.64.¹³ In an empirical study of Okun's coefficient for four Mediterranean countries (Italy, Spain, Portugal, and Greece), Dritsaki and Dritsakis (2009), found a range of estimates from 1.6 (Portugal) to 2.4 (Italy).¹⁴ In a report on the Saudi Arabian Economy, Dr. Mohamad A. Ramady estimated the potential output losses to Saudi Arabia using an Okun coefficient of 2.0¹⁵

¹¹ Okun, Arthur M., 1962, *Potential GDP: Its Measurement and Significance*, Proceedings of the Business and Economic Statistics Section of the American Statistical Association.

¹² Altig, David, Terry Fitzgerald, and Peter Rupert, 1977, *Okun's Law Revisited: Should We Worry about Low Unemployment*. <https://www.clevelandfed.org/research/Commentary/1997/0515.htm>.

¹³ Lee, Jim, 2000, "The Robustness of Okun's Law: Evidence from OECD Countries," *Journal of Macroeconomics*, Spring, Vol. 22, No. 2, pp. 331-356.

¹⁴ Dritsaki, Chaido & Nikolaos Dritsakis, 2009, "Okun's Coefficient for Four Mediterranean Member Countries of the EU: An Empirical Study," *International Journal of Business and Management*, Vol. 4, No. 5, May, pp. 18-26.

¹⁵ Ramady, Mohamad A., 2010, *The Saudi Arabian Economy: Policies, Achievements, and Challenges*, Second Edition. http://saudi-economy.org/Book_Overview.htm

Given the differences in Okun's coefficients, we decided to use a more conservative estimate of our lower bound estimate of an Okun coefficient for Saudi Arabia. In the study by Jim Lee (2000) of 16 OECD countries, Dr. Lee's average Okun coefficient for 14 of those countries was 1.75.^{16,17} We use a lower bound estimate of 1.75 and an upper bound estimate of an Okun coefficient for Saudi Arabia equal to 2.00. This means that that a 1% drop in unemployment would lead to a 2% increase in GDP, or \$13.26 billion (49.7 billion SAR).

In order to compute the total cost of unemployment using this method, we need to use the countries' overall unemployment rate. According to SAMA, the overall unemployment rate in 2013 in KSA was 5.6%, which implies roughly 646,875 unemployed people. Since the *Hafiz* data suggest a larger number of unemployed, they would also suggest a higher unemployment rate. Based on scenarios 1 and 2, we estimate that the unemployment rate is between 12.36 – 17.12%.¹⁸

Based on an Okun's coefficient of 1.75, going from the current unemployment rates to zero unemployment would result in a 21.63% – 24.72% increase in GDP, which amounts to an additional **\$163.94 – \$227.09 billion annually** (or 614.7 – 851.5 billion SAR annually). Based on an Okun coefficient of 2.0, going from the current unemployment rates to zero unemployment would result in a 29.97% – 34.25% increase in GDP, which amounts to an additional **\$187.36 – \$259.53 billion annually** (or 702.6 – 973.2 billion SAR annually). The results from Okun's method are displayed in Table 3.

¹⁶ We have deleted the outlier results for Japan and Austria.

¹⁷ Altig, David, Terry Fitzgerald, and Peter Rupert. *Okun's Law Revisited: Should We Worry about Low Unemployment*. May 15, 1977. <https://www.clevelandfed.org/research/Commentary/1997/0515.htm>.

¹⁸ We use the number of unemployed Saudi citizens for the total unemployed given the extremely low prevalence of unemployment for Non-Saudis.

Table 3: Economic Loss in Real GDP in KSA (Okun Coefficients Analysis)					
		% change in GDP		\$ change in GDP (in billions)	
Unemployment Estimates	Current Unemployment Rate	Okun Coefficient: 1.75	Okun Coefficient: 2.0	Okun Coefficient: 1.75	Okun Coefficient: 2.0
Scenario 1	12.36%	21.63%	24.72%	\$163.91	\$187.33
Scenario 2	17.12%	29.96%	34.24%	\$227.04	\$259.47

Let us emphasize an important point about the first two methods. The average product method basically says that increasing employment by [X] percent will also increase GDP by [X] percent. Our estimated range of the unemployed in KSA (1,365,391 – 2,000,000), if employed, would represent an employment growth of 14.11% – 20.66% and GDP growth of the same magnitude. Okun’s coefficients take into account actual historical patterns. One of the theorized reasons why the coefficients are consistently above 1 is that as more jobs become available, more people will enter the labor force to look for jobs. Thus, an economy will actually have to be employing a higher number of people in order for the unemployment rate to fall each additional percentage point.

Under Method 1 (average real GDP loss per worker methodology), the estimates suggest that the cost of unemployment (assuming 1,365,391 unemployed), in terms of lost output, ranges from **\$59.606 billion to \$106.894 billion annually** (or 223.5 to 400.8 billion SAR). Under Method 1 (average real GDP loss per worker methodology), the estimates suggest that the cost of unemployment (assuming 2,000,000 unemployed), in terms of lost output, ranges from **\$87.310 billion to \$156.577 billion annually** (or 327.3 to 587.2 billion SAR).

Under Method 2 (average real GDP lost utilizing an Okun coefficient of 1.75), the estimates suggest that the cost of unemployment, in terms of lost output, ranges from **\$163.94 billion annually** (614.7 billion SAR or 21.63% of GDP) to **\$227.09 billion annually** (851.5 billion SAR or 29.97% of GDP). Under Method 2 (average real GDP lost utilizing Okun coefficient of 2.00), the estimates suggest that the cost of unemployment, in terms of lost output, ranges from **\$187.36 billion annually** (702.6 billion SAR or 24.72% of GDP) to **\$259.53 billion annually** (973.2 billion SAR or 34.25% of GDP).

2. Additional Social and Economic Costs of Unemployment

In addition to the value of lost output, there are numerous other direct and indirect economic and social costs due to unemployment and underemployment. Many of these are more difficult to measure or estimate precisely, while others can be quantified only with data unavailable for Saudi Arabia. Yet we can be certain that consideration of these additional factors increases the total social and economic burden of unemployment for Saudi society and the Saudi people well beyond the calculations for lost output estimated in the previous section, which alone are high enough to justify a strong policy focus on job creation. Some of these costs may even feed back through the economy to amplify the total impact of unemployment in terms of lost output. This section briefly summarizes additional social, macroeconomic and microeconomic costs of unemployment.

i. Unemployment causes financial insecurity and lower living standards

When individuals are unemployed, they are without a means of supporting themselves and their families. To take care of their ongoing needs and those of their children and other dependents, they must therefore resort to one or more of the following: 1) deplete savings; 2) incur additional debt; 3) rely on public and/or private

assistance of some kind. We also know that a small percentage of individuals faced with such a situation will resort to income-generating crime. In all of these cases, individuals and families face increasing financial insecurity and a lower standard of living, with all their attendant effects.

ii. Unemployment results in decreased spending, which translates into lower sales and profits for businesses

When a community suffers from high unemployment, it is denied important purchasing power. Local businesses will lack the sales they need to support investment and employment. Additional layoffs may occur, exacerbating these problems.

By denying communities a steady income stream, unemployment stifles spending. At least some of that spending would have been in support of local businesses. Local firms may lack the business they need to encourage investment and job creation.

It is well known that low-wage workers tend to live in poorer communities and spend a larger portion of their income locally. Thus, unemployment will result in decreased spending in the neediest regions, which can further decrease employment where unemployment is the highest and most burdensome. Higher poverty rates will decrease the inducement to invest in poor neighborhoods, with a negative impact on economic and social conditions, particularly for youth.

iii. Unemployment is directly related to physical and mental health problems

Studies have shown that unemployment is directly related to ill physical and mental health, as well as poor pre-natal care. Individuals who are unemployed often blame themselves, leading to depression. Financial insecurity associated with joblessness creates stress and anxiety. The unemployed often are unable to provide a healthy diet for themselves and their children. There are now many studies

demonstrating the direct relation between unemployment and a variety of mental health problems, including suicide.

iv. Joblessness results in higher crime rates

Many studies now demonstrate the direct relationship between unemployment and income-generating crime. The major factor in the decline in many types of crime in the U.S. during the 1990s was the lower unemployment rates and stronger economic growth. Most individuals would prefer to support themselves in a legal manner, rather than live a life of danger and fear by resorting to criminal activity.

Unemployment increases crime rates. This fact has many significant secondary effects. More crime means more people in the courts, and in prison. More crime means more victims of crime. More crime means less safe communities.

v. Unemployment results in lower productivity

Job security is low, when there is high unemployment, which affects workers' productivity. When people are out of work, their skills have been shown to deteriorate. Unemployment also results in a less healthy labor force, and studies have shown that worse health means lower productivity. There is a strong relationship between income and nutrition, and nutrition and productivity. Unemployment also lowers worker morale. It is a short step from these facts to the acknowledgement that unemployment can decrease productivity.

In addition to these microeconomic factors affecting productivity, there are also macroeconomic sources of lower productivity. Lower employment means slow growth of demand and lower capacity utilization, decreasing productivity. Lower productivity means less efficiency and higher costs, which can translate into higher prices, lower profits, and less investment, employment and prosperity.

vi. Unemployment stalls technical and organizational innovation

Unemployment means low demand and stagnant wages, which translate into low incentives for firms to innovate. Unemployment, through its negative impact on demand and wages, decreases firms' incentives to retool and implement new organizational and technical innovations. This leads to sluggish productivity growth, higher prices, lower profits and investment.

vii. Unemployment harms the elderly

Unemployment harms the elderly in a number of ways. Many elderly people are dependents, and so unemployment creates insecurity for them. The unemployed themselves are future elders, and so the long-term security of the elderly is affected by unemployment, by depleting savings and stimulating debt accumulation.

viii. Unemployment results in worsening income distribution and increases inequality

There is a direct relation between unemployment and inequality. The social costs of greater inequality have been well documented. Of particular significance are the ways in which inequality makes everyone worse off, including those in higher income brackets. Increased inequality can threaten community and damage social cohesion.

Unemployment not only depresses individuals: high unemployment can depress the entire community, not only economically but in terms of the sense of community itself. Unemployment robs both individuals and communities of hope. It can even threaten social and political cohesion. Unemployment denies neighborhoods and communities of stakeholders, which can disrupt social and political stability.

ix. Unemployment harms children and youth, who are the future

Unemployment can disrupt children's education. Families where the parents are unemployed often need their children of working age to work to help support the family. In the long run, this results in a less educated, lower skilled labor force with decreased productivity and harmful effects for all.

Unemployment harms children in other ways as well. Unemployment is directly related to family disruption such as divorce. Children also suffer from worse health and nutrition, and in some cases may lack role models.

x. Unemployment harms individual identity and dignity

Nobel-prize winning economist Amartya Sen has pointed out that there are three different aspects to employment: the *income* aspect—employment provides income security for the employed; the *production* aspect—employment results in increased production of goods and services; and the *recognition* aspect—the employed person is engaged in a worthwhile activity. This third aspect implies that the unemployed are denied the opportunity to satisfy a deeply felt human need for social recognition tied to work.

3. Mutually Reinforcing Relation Between Social, Micro, and Macro Costs

It may not be the case that the total costs of unemployment are a simple summation of the social, macroeconomic, and microeconomic costs. Rather, there may be a mutually reinforcing dynamic at work, in which costs in one area magnify the costs in others. In other words, positive feedbacks and reinforcing dynamics may predominate. One good example where this may apply is productivity growth. There are both macro and micro sources of productivity growth and these may be mutually

reinforcing. A number of the social costs may also affect productivity through decreased job security, lower worker morale and depression. The total effect may therefore be greater than the sum of the individual impacts. These are the social and economic multipliers that result from unemployment, affecting individuals, families, neighborhoods and communities in multiple ways.

When these costs are added to the costs associated with lost output, the gravity of the situation begins to become clear. The implications of these costs of unemployment are that the benefits of job creation and full employment include improved security, alleviation of a variety of social and economic ills, social and political stability, expanded output and income, spending, consumption and investment, and greater equality and lower poverty. Quite simply, a compelling argument can be made that the net benefits of job creation are potentially enormous.

II. The Job Guarantee Program

1. The Job Guarantee Approach to Full Employment Policy

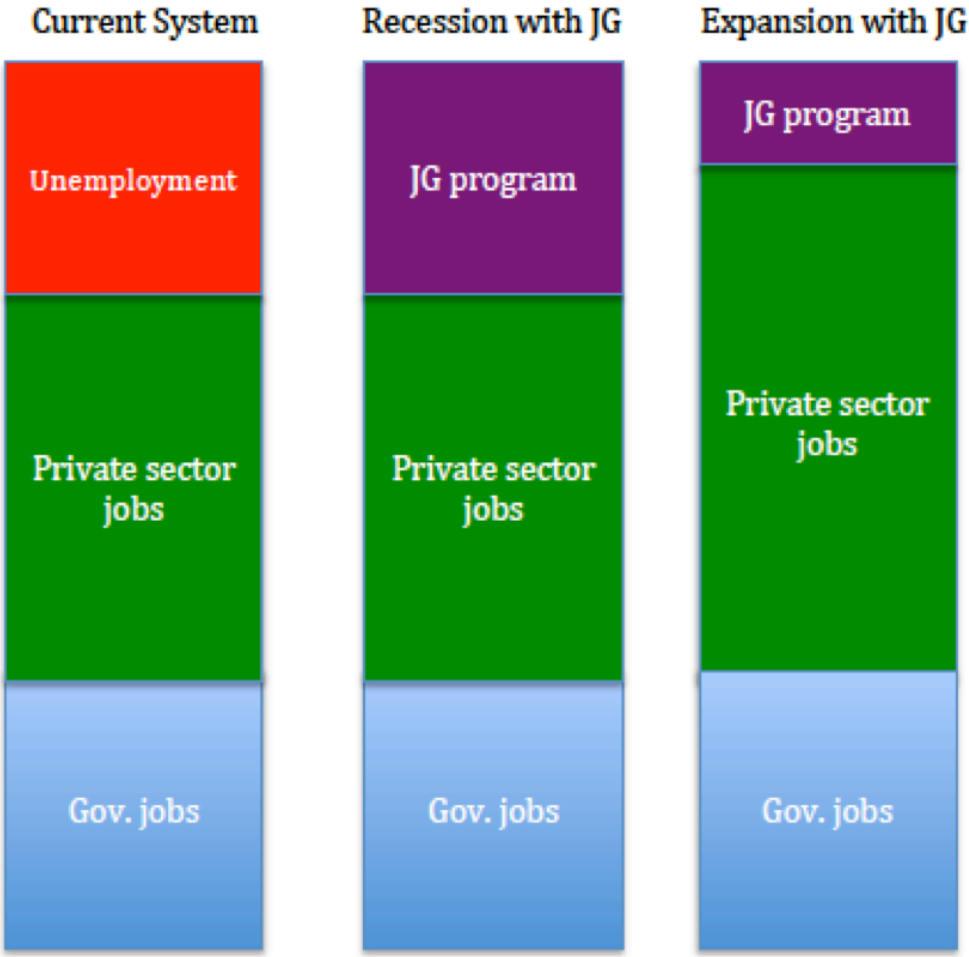
This section introduces the mechanics of the Job Guarantee (JG)¹⁹ approach to full employment and some of its advantages over other approaches to full employment, including minimal disruption to communities, local administration and potential for social and environmental benefits. The program's price stabilization properties will also be discussed.

Under the Job Guarantee program, community service employment would be provided for anyone ready, willing and able to work who cannot find a job in the private sector or regular public sector. The program therefore acts as a powerful automatic stabilizer, with JG employment fluctuating counter-cyclically. When the

¹⁹ The bibliography at the end of this report lists some of the most relevant Job Guarantee literature.

economy is growing, the non-JG demand for labor increases and so the JG program will shrink as non-JG employers hire workers out of the JG program; if the economy should enter a recession, the non-JG demand for labor will fall, but instead of entering the ranks of the unemployed workers will flow into the JG program. Full employment will always hold, with only the ratio of non-JG to JG employment varying over the business cycle. Instead of some workers alternating between employment and unemployment with the expansion and contraction of the macroeconomy, they will alternate between non-JG employment and JG employment (see Figure 1).

Figure 1: Employment fluctuations during the business cycle



JG experience prepares workers for post-JG work, whether in the private sector or in government. Thus, JG workers should learn useful work habits and relevant skills. Training and retraining should be an important component of every JG job. Actually, just remaining employed rather than entering the ranks of the unemployed will serve to maintain the human capital of workers, as unemployment has been demonstrated to result in the deterioration of skills and knowledge.

JG workers will be engaged in socially useful activities, but they will not duplicate things already being done in the private sector or regular public sector (unless there is a severe shortage of such services). Importantly, JG activities will not compete with the private sector and the public sector will not be permitted to substitute government employees with JG workers.

The JG program provides full employment, but with flexible labor markets. With the JG, labor markets are loose because there is always a pool of labor available to be hired out of the JG program and into private firms. Currently, this kind of flexibility can only be maintained by keeping people unemployed. Thus, in the present system, flexibility comes at an unacceptably high cost. Firms will be much happier to hire out of the JG program rather than out of a pool of unemployed workers.

The Job Guarantee also allows for geographical flexibility, and therefore minimal dislocation for JG workers and their families, neighborhoods and communities. Firms are constrained by competitive pressures in their decisions concerning where to locate, but the same is not true of the public sector, including the JG program. Of course, there are still constraints on location for some public sector activities, and certain types of activities cannot be located just anywhere. However, many activities have no locational restrictions, and decreased costs of transportation and the expansion of information complexes have reduced such restrictions for many others.

There are significant regional and local differences in unemployment rates. Locational flexibility means that JG employment need not cause disruptive dislocation

for workers. Rather, employment opportunities can be located where there are unemployed. The local administration of JG programs will facilitate this approach.

The national government pays the basic JG wage-benefits package, but local governments and neighborhood associations administer the program. Local administration has a number of advantages over a centralized bureaucracy. Local communities know what needs should be prioritized, and local traditions will be respected. The program promotes increased interaction with one's neighbors, and in this and other ways can strengthen community ties. The program therefore promotes mutual aid and reciprocity. Family and neighborhood empowerment follows from a program based on cooperation and local development. Numerous environmental benefits are also possible.

There are two main ways in which the JG program can promote ecological sustainability. First, JG workers can be directly employed in activities that enhance the environment. Examples include recycling, clean up, community gardens, and so on. Second, even if JG workers are not directly engaged in activities related to the environment, an economy brought to full employment through the JG will be more sustainable than one in which the job creation comes through stimulating private sector growth. JG activities need not use scarce natural resources or methods of production that pollute. There is a whole spectrum of near pure services that use virtually no natural resources at all.

2. Price Stabilizing Features of the Program

The Job Guarantee not only provides full employment, it also gives price stability. This section briefly summarizes several strong price-stabilizing characteristics of the JG.

First, JG workers may be engaged in public works such as infrastructure revitalization that promote private sector productivity growth. Rising labor productivity, by lowering costs, serves to dampen inflationary pressures. Related to this is that the JG program, unlike unemployment, maintains and even enhances human capital. Education and training can be part of the program, which contribute to further increasing skills and labor productivity.

Second, JG workers may be employed in activities that help reduce expensive social and environmental costs, such as environmental protection. Lowering these costs will also assist in stabilizing prices.

Third, the increase in expenditure on Job Guarantee workers will be at least partially offset by decreases in other forms of expenditure on the unemployed, or the effects of unemployment. Thus, expenditures on *Hafiz* and some other forms of general assistance will decline significantly with the JG program. There may also be expected savings in the form of decreased expenditures on the indirect costs of unemployment. These factors range from reductions in spending on crime prevention and prosecution, and criminal justice related to unemployment, reductions in medical bills, and savings on other social and economic costs of unemployment.

Fourth, the JG will tend to be less inflationary than income support for the unemployed such as the *Hafiz* because the former increases both supply and demand, while the latter increases only demand. This is another important anti-inflationary aspect of the JG program.

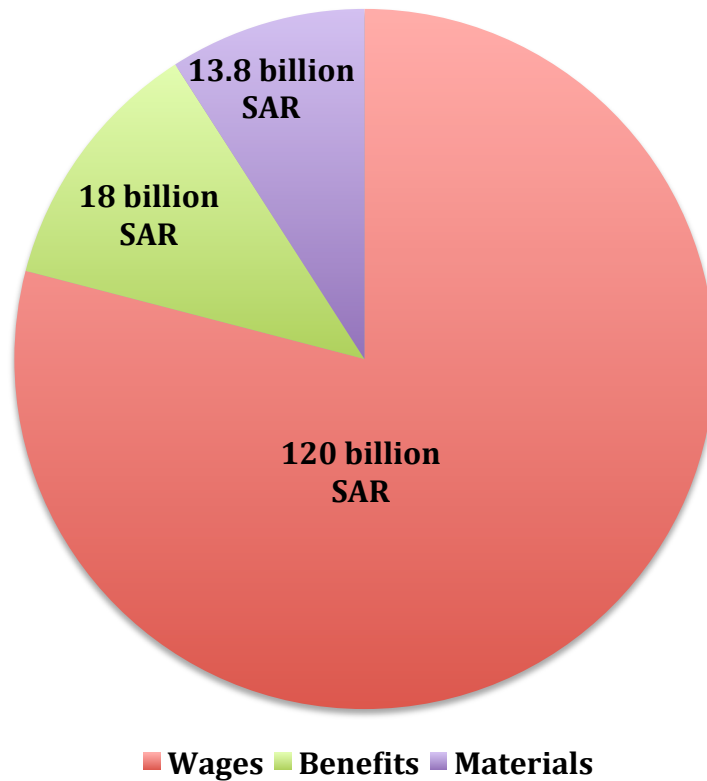
Fifth, JG activities may be designed to avoid bottlenecks and structural rigidities, a frequent source of rising prices. Thus, the JG program provides for flexible full employment.

Sixth, by setting the nominal value of the JG wage-benefits package, the JG program serves as a buffer stock of labor. The perfectly stable JG wage serves as an anchor for the price level.

3. The Cost of a Job Guarantee Program in Saudi Arabia

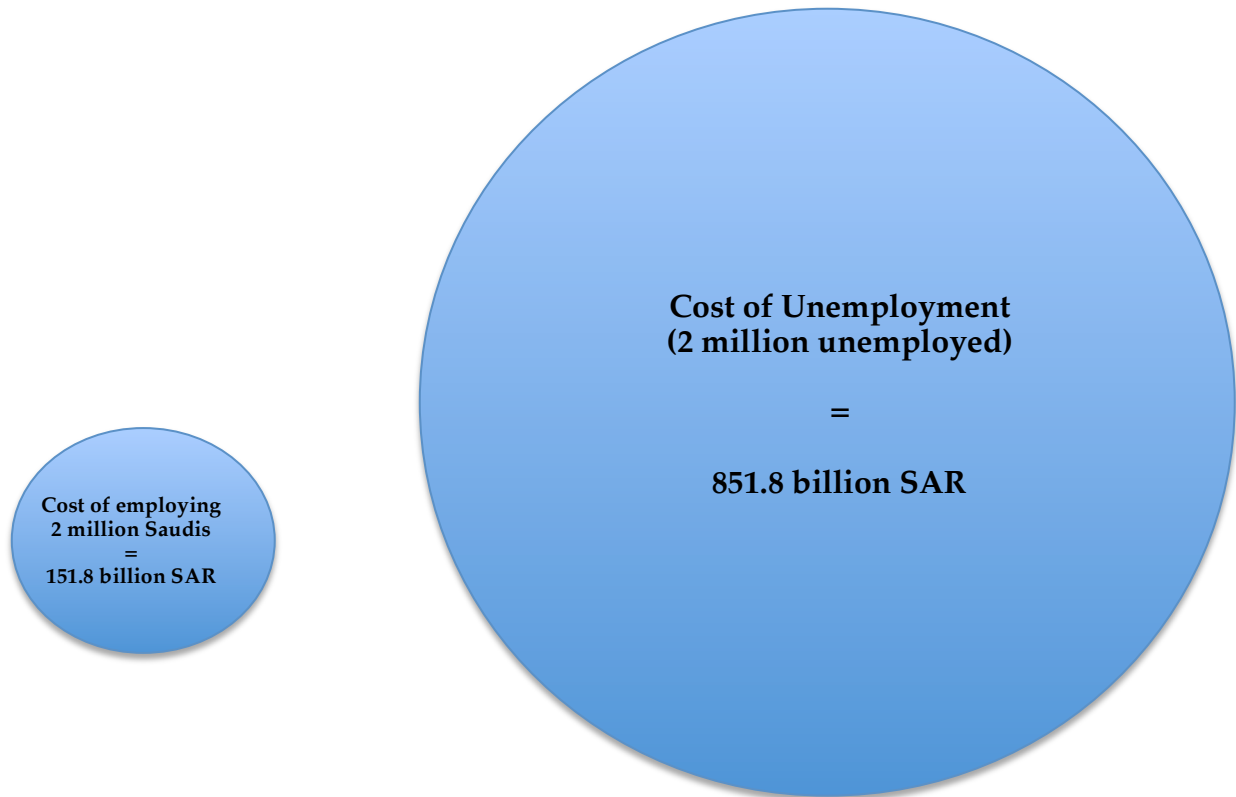
Calls for a Job Guarantee program are often dismissed because of two misperceptions: a) the program will be too expensive, and b) the wage will be too low to make any difference in the workers' lives. What we will demonstrate here is how false such assumptions are. We will propose a generous wage and benefits package for all the unemployed and demonstrate that the cost of the program is far less than the economic cost of unemployment. For the sake of argument, we will use the upper bound estimate for unemployment that we referred to above, namely two million unemployed Saudis. Additionally, we will propose a 5,000 SAR (\$1,350) monthly salary for the JG employees as an approximation for a decent living wage in Saudi Arabia. Our estimates will also take into account an additional 15% benefit costs per worker (750 SAR, or \$202.5), which would cover healthcare and retirement insurance benefits. As a result, the gross annual wage and benefits bill for two million JG workers will amount to 138 billion SAR (\$37.2 billion, or 4.9% of GDP). Furthermore, we will also allocate an additional 10% to account for all the logistical and material costs associated with planning, executing, and assessing the JG program. This brings the annual cost of the JG program to **151.8 billion SAR (\$40.9 billion or 5.4% of GDP; Figure 2)**.

Figure 2: Cost of employing 2 million JG workers in KSA



When we used the most conservative Okun's coefficient for KSA (1.75), we found that the cost of unemployment (for 2 million unemployed), in terms of lost output, is **\$227.09 billion annually** (851.5 billion SAR or 29.97% of GDP). That is to say that the economic cost of unemployment is more than 5 times larger than the cost of implementing a Job Guarantee program in KSA (Figure 3).

Figure 3: Cost of Job Guarantee program vs. Cost of Unemployment in KSA



We must also underline that our estimates of the economic costs of unemployment did not include any of the social costs associated with unemployment. In other words, the actual total cost of unemployment is much higher than 851.8 billion SAR. We have, therefore, made a very conclusive case for the financial affordability of the JG program. We shall now turn to a presentation of alternative financing mechanisms that can facilitate the implementation of a Job Guarantee program in Saudi Arabia.

4. Alternative Financing Models

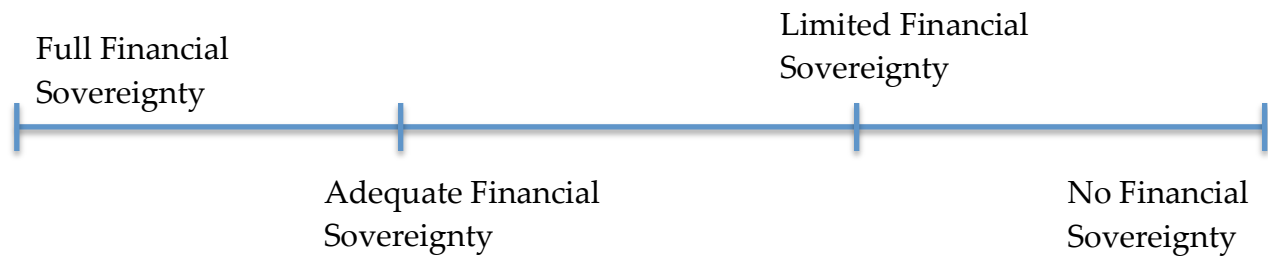
We have so far demonstrated that the cost of the JG program is far more affordable than the social and economic costs of unemployment. However, we do

recognize that policymakers may still have some technical concerns about financing the JG program. We must first stress the fact that the private sector, left to its own devices, will not automatically create a sufficient number of jobs to absorb all the unemployed population. Therefore, we are left with two options. The government can either act as an employer of last resort or the non-profit sector (in coordination with both government and private sector entities) can act as a catalyst for job creation in the field of social entrepreneurship. In what follows, we present two models for financing a Job Guarantee program: a) financial sovereignty, and b) social venture partnerships.

a. Financial Sovereignty

A financially sovereign country is defined by the following characteristics: a) it prints its own fiat currency; b) it collects taxes and fines in its own currency; c) it only issues bonds in its own currency; and d) it operates under a flexible exchange rate regime. We can think of a spectrum of financial sovereignty rather than simply considering a country as either financially sovereign or not financially sovereign (Figure 4). For example, countries like the United States, Japan, Canada, and Australia, among others, enjoy full financial sovereignty, which gives them a wider fiscal policy space to finance a Job Guarantee program or other social, economic, and environmental programs. However, countries that have completely given up their financial sovereignty are subject to very severe fiscal policy constraints that can only be relieved by generating substantial trade surpluses and foreign currency reserves, or through adequate access to international capital markets, IMF loans, or other bilateral loans (e.g., Greece, Spain, and Portugal, who now use a foreign currency (the euro), or Ecuador, which uses the US dollar as its national currency). Most developing countries have limited financial sovereignty, which limits but does not entirely prevent them from introducing a scaled down version of the JG program.

Figure 4: The Spectrum of Financial Sovereignty



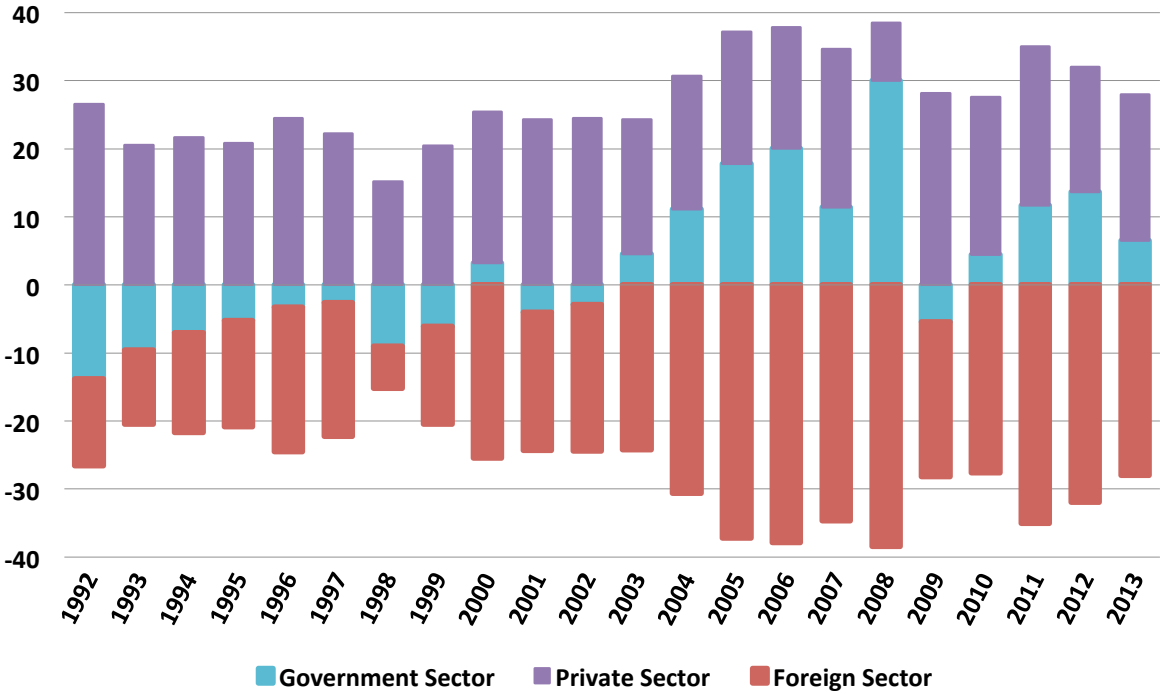
Saudi Arabia has an adequate level of financial sovereignty because of its substantial trade surplus and foreign currency reserves. It is the fixed exchange rate policy that precludes Saudi Arabia from having full financial sovereignty. However, because a speculative attack against the Saudi Riyal is nearly impossible thanks to the existing foreign currency reserves as well as the proven oil reserves (which also translate to future currency reserves), it is reasonable to consider that Saudi Arabia essentially enjoys the same fiscal policy space as countries that have full financial sovereignty.

The macroequilibrium accounting identity is defined as follows: *Government Sector Balance + Private Sector Balance + Foreign Sector Balance = 0*. This accounting identity holds true for *every* country and in *any* given year. Figure 5 shows the KSA data, which naturally confirms the validity of the accounting identity. KSA is one of few countries that have recorded a surplus in all three sectors in recent years: a government surplus, a private sector surplus (households and firms combined), and a foreign sector deficit (which is the equivalent of KSA's trade surplus with the rest of the world).

Let us now assume that KSA will finance the JG program through direct government spending in the amount of 151.8 billion SAR (\$40.9 billion or 5.4% of GDP). Using the macroequilibrium condition and the 2013 data from Figure 5, this would reduce KSA's government surplus from 6.4% to 1% of GDP. In other words, the impact would be either an increase in the private sector surplus (from 21.5% to 26.9% of GDP),

a decrease in KSA's trade surplus (from 27.9% to 22.5% of GDP), or a combination of the two.

Figure 5: KSA Sector Balances (1992-2013)



As a financially sovereign nation, KSA can simply spend money into existence and can afford to purchase anything that is for sale in its own currency. To put it simply, anything that is physically and technologically possible is also financially affordable for countries that enjoy full financial sovereignty. KSA is blessed with the financial resources that allow it to end unemployment and all the negative social and economic consequences that stem from it.

The increase in government spending will naturally translate into increased purchasing power in the private sector, which will in turn lead to an increase in demand for goods and services. If the domestic productive capacity is capable of handling this increase in consumer demand, then the result would be a boom in

economic activity in the private sector rather than an increase in inflation. However, if the private sector is unable to meet the demand, then there will be an increase in imports, which would reduce KSA's foreign currency reserves. In the long run, if oil revenues drop dramatically and currency reserves are depleted, then an increase in imports would also mean higher levels of inflation. That is precisely why Saudi Arabia must take advantage of the increased fiscal policy space that it enjoys today by investing in diversifying its economy and capitalizing on domestic resources and human capabilities. A recent report by Ernest & Young²⁰ shows that the economic multiplier effect of one dollar invested in the GCC oil industry adds only \$1.30 to GDP and affects 7 industries; whereas a dollar invested in the construction industry yields \$1.80 and affects nearly all other industries. Our detailed proposal for some strategic investments is outlined in Section III below.

Finally, we must also stress that Saudi Arabia can deal with any inflationary pressure arising from increased purchasing power by issuing government bonds at attractive interest rates, which would allow it to withdraw some of the excess purchasing power from the system (reduce inflation). Inflation is an inherent aspect of the economy. It is to be managed rather than feared. We should not let the fear of inflation stand in the way of full employment and sustainable prosperity.

b. Social Venture Partnership

Implementing a Job Guarantee program does not necessarily need to be exclusively financed by a sovereign government. What we are proposing here may actually be conducive to more effective and impactful implementation. Social Venture Partnership (SVP) is a financing mechanism aimed at capacity building in the non-profit

²⁰ <http://www.ey.com/GL/en/Newsroom/News-releases/News-EY-gcc-countries-can-gain-an-extra-us17-7-billion-through-diversification>

and charitable organizations. The SVP structure would be decentralized and community focused.

There would be an SVP organization in every major city. Each SVP office is to be managed by a team of experienced business leaders, community organizers, philanthropists, and even government officials drawn from the local community/region. Funding for each SVP comes from a combination of government grants and philanthropic donations from banks, businesses, and individuals. SVP essentially acts as a regional community development agency focusing its activity on social entrepreneurship with the goal of improving quality of life for all members of society by investing in community-oriented services.

By design, the JG program is very decentralized. Every local community will have a number of social enterprises (SEs) that will match the existing skills of the local unemployed population with the pressing needs of the community. The idea is to take workers as they are, provide on-the-job training and professional development, and improve the overall quality of life for the local community. SEs will provide useful and productive employment opportunities in a way that complements rather than competes with government and private sector activities. If the needs of the community involve public infrastructure or other forms of mainline government services, then those requests will be referred to the government for standard government appropriation.

The local SEs will select, implement, manage, and assess their own community projects, however, SEs may be linked at the regional and national level to share expertise and learn from each other's successes and failures.

Funding and operations of the SEs will be based on an SVP business model. Each SVP office will periodically issue a Request for Proposals (RFP) calling on local SEs to submit grant applications to fund the implementation of their community projects. SVP will review the applications and interview the candidates to assess the effectiveness of the proposed projects and their expected social impact. The key criteria for funding will

be capacity building for the SEs and their local communities and the sustainability of the proposed projects beyond the initial grant period. The ultimate goal is to create the maximum positive social impact for the community and to engage young men and women in meaningful and rewarding activities.

Once SEs are selected for funding by SVP, they will enter into contract with SVP to receive both financial support as well as direct consulting, mentorship, and staff training to ensure transparency, maximum capacity building, and successful implementation of the social venture. SVP will also assist SEs to develop the appropriate metrics for measuring KPIs and social return on investment.

SVP will operate as an incubator and an inspirational hub for youth-driven and community-driven social entrepreneurship ventures. Needless to say, the skills and experiences gained in these social ventures are 100% transferrable into other professional settings including for-profit business ventures. Therefore, the SVP and JG model has the capacity to revolutionize labor market outcomes, spark innovation, reduce economic fluctuations, and improve quality of life for communities in need.

The SVP financing model has the advantage of minimizing the government involvement in financing and micromanaging the JG program. It also allows for complete ownership by local communities who can tailor the program to suit the specific needs of the community. The scope of what those SEs will actually do is unlimited and must be defined by the ingenuity and the creativity of local communities based on their knowledge and expertise of their own needs, skills, and aspirations. What we will outline in the next section are simply some strategic areas that need to be part of a comprehensive policy framework to ensure sustainable prosperity and better quality of life for all members of society in Saudi Arabia.

III. Strategic Programs for Jobs and Sustainable Prosperity

In order for the Job Guarantee program to truly succeed in Saudi Arabia it must be designed and implemented in a way that respects and embraces the institutional fabric of Saudi society, culture, and economy. In other words, the specific jobs that will be created under the JG program will be tailor-made for Saudi social and economic realities. What is presented here is a sample of potential JG projects that are both feasible and beneficial for Saudi society. That said, the best way to select projects is through local community dialogue and consultation with all the relevant stakeholders. Furthermore, it is important to recognize that the JG program is not a silver bullet solution to all the economic and social problems faced by Saudi society, but a platform for designing a multifaceted set of policy initiatives that address a wide variety of social, economic, and environmental problems, while at the same time creating jobs, adding social and economic value, and improving quality of life for all members of society. That is to say, a problem or goal is identified, and then an employment-focused solution is designed that addresses the root cause of the problem or can achieve the goal. In what follows, six examples of JG initiatives are presented that can be implemented in Saudi Arabia.

1. Vocational Education and Job Placement: A School-to-Work System

As was emphasized in the Introduction by the parable of dogs and bones, as important as education and training are for the economy, they alone do not explain unemployment. Rather, there are structural constraints that lead to stubbornly persistent unemployment *even with* (actually, *especially with*) higher and more sophisticated levels of skills and education. Hence the importance of a Job Guarantee

program to address the root causes of unemployment and the structural imbalances that may emerge as a result of excessive reliance on a narrow set of industries and skills. The Saudi educational system has a significant imbalance between the university education track and the vocational education track. As of 2013, 78% of Saudi high school students were enrolling in university, a higher proportion than any other country in the world (e.g., 56% in OECD countries). By contrast, only 9% of Saudi high school graduates were enrolled in technical or vocational training, compared to 41% in OECD countries (Sfakianakis 2014²¹).

Furthermore, it is no surprise that young university graduates are not as experienced and competitive as foreign workers (from either the university or vocational training tracks). Unfortunately, the current Saudization program does not address the *process* of supplying trained workers to the Saudi economy, but rather focuses on the *composition* of the workforce at the end of that process. Implementing a *School-to-Work Job Guarantee* program can rebalance and diversify the composition of the Saudi economy across a wide range of economic sectors of sustainable prosperity.

The program would consist of an educational track either within the high school and university system or as a parallel track to the traditional education system. It would involve internships, externships, workshops and professional career exploration during years of education, followed by guaranteed employment in preselected strategic industries for up to four years. Upon completion of the program participants may be awarded an in-kind incentive bonus (e.g., a house, share/partnership in a particular company, or some other incentive) for completing the program and for contributing to the development of the country's strategic industries and human capital.

Examples of these kinds of strategic industries may include sustainable/green construction (including all the vocational subcategories: electricians, plumbers, masons, etc.), sustainable housing (eco-villages), sustainable agriculture (hydroponic systems,

²¹ <http://www.arabnews.com/news/588951>

water treatment/management, etc.), solar energy, health & wellness (preventative care, prenatal care, anti-diabetes care, elderly home care, and the like), education, hospitality, cultural heritage, digital media, social entrepreneurship, and so on.

In addition to rebalancing the composition of the economy away from an exclusive focus on oil, there would also be a standard Job Guarantee program to address social services and local community development as a permanent full employment program.

A few decades ago, university education used to be a ticket to the middle class, but this is no longer the case for so many people. That is why there must be additional policies to guarantee and sustain access to a decent middle class status through strategic guaranteed employment.

2. Green Construction: A School-to-Work System

The construction industry is one of Saudi Arabia's leading sectors. It is a labor-intensive industry that relies heavily on foreign labor. It is also one of the industries that has struggled the most with the Saudization efforts of the last few years. In addition, this sector is a very promising in terms of its future growth potential, Saudization capacity, value creation, and environmental sustainability. However, it must also be acknowledged that there are some very real obstacles impeding this sector's potential for Saudization. There is a cultural stigma against manual jobs related to construction, plumbing, electrical work, masonry, and carpentry. This stigma creates a barrier that prevents young Saudis from considering a career in the industry because of the negative perceptions about the social status associated with manual jobs, harsh working conditions, and low wages. Ultimately, these obstacles can only be eliminated when construction jobs translate into middle class status. This means they must be jobs with

decent pay²² that can support a family, and include retirement benefits, healthcare benefits, disability benefits, safe workplace environment (protective gear, safe equipment, safety training), and a reasonable work schedule (40 hours/week, overtime pay, vacation time). It is important to highlight that the Ministry of Labor has taken some key steps in the right direction, including imposing a de facto minimum wage for Saudis working in the private sector (3,000 SAR) and banning outdoor work between noon and 3pm during the hot summer months, but there is more room for gradual improvements.

The following proposal is a strategic long-term plan to achieve higher rates of Saudization in the construction industry by improving skills, embracing sustainable construction standards, and investing in a new generation of Saudi workers. The idea is simple: tackle the core of the social stigma against manual jobs by guaranteeing a middle class status, decent quality of life, and an honorable and dignified professional career.

This Green Construction initiative would be a partnership between government Ministries (including Labor and Social Affairs, Education, Public Works and Housing, Commerce and Industry, Finance, and Economy and Planning), regional chambers of commerce and industry, Saudi construction companies, and professional vocational education programs (such as the Technical and Vocational Training Corp) to recruit young Saudis (e.g., ages 14-16) to study and practice the construction trade. The green/sustainable curriculum would include hands-on practical workshops on topics including insulation techniques, materials science, solar technology, water conservation, energy efficiency, and safety.

The Green Construction vocational training program would be offered as a parallel track to standard high school academic training. The training sessions would be

²² Probably a decent starting monthly salary would be around 5,000 SAR.

organized in the afternoon, on weekends, or during the summer, in conjunction with practical apprenticeship sessions. The program could even offer a modest stipend to participants (e.g., 1,000 SAR) as an incentive to join the industry. Furthermore, the Green Construction program should offer a clear, transparent, and guaranteed path to middle class status. After graduation from high school and finishing the required vocational training program (a joint degree or certification), the young graduates would be offered a *guaranteed* employment opportunity in the private sector as a certified Green Construction technician with a specialization (in plumbing, electric, solar, carpentry or another option). After four years of successful full-time employment, the young candidate becomes eligible to own a decent sized apartment either free of charge or at a heavily subsidized price.

In a matter of 10-20 years, Saudi Arabia can successfully achieve higher Saudization rates in the construction industry, increase homeownership rates, reduce youth unemployment, and strengthen the middle class. Additionally, as an outcome of this program, the participant would be a:

- a. young person in their mid-20s with professional skills and experience that makes them highly employable and productive;
- b. homeowner who can start a family without worrying about finances, unemployment, paying rent, or borrowing from family or a bank;
- c. person who can start their own construction-related business.

They may even decide to pursue an MBA, or a higher degree in a field such as architecture, interior design, solar technology, or materials science, so the standard university academic track is still an option and is not compromised or eliminated for people who opt for this program.

An important criterion for the success of this School-to-Work program would be getting the “right price” (i.e., wage, benefits, incentives) straight from the beginning, so that it is truly attractive as a career choice that leads to a decent quality of life through

hard work in a humane and dignified work environment. Needless to say, very high standards must be set and maintained in order to achieve excellence in terms of productivity and quality of production.

On the sustainability front, the importance of investing in Green Construction—both in terms of labor skills as well as infrastructure—cannot be overstated. Heating, Ventilation, and Air-conditioning (HVAC) are the main drivers of non-industrial electricity consumption. HVAC takes up 70% of electricity consumption in Saudi Arabia. According to Dr. Ahmed Al-Hazmi (SABIC²³), green construction standards can reduce HVAC energy waste by 82%. This will not only reduce the ecological footprint of the industry, but it will also save money and improve overall quality of life in the long run.

Finally, we should stress that similar School-to-Work initiatives could be developed in other strategic industries that have struggled to attract young Saudi workers in the past. Particular emphasis may be placed on advanced-skills manufacturing employment, healthcare jobs (e.g., surgical technicians, anesthesiologists, medical assistants, prenatal care professionals, etc.), and artisanship (e.g., jewelry design and production²⁴, other skilled crafts).

3. Solar Industry: The Path to Sustainable Prosperity

To be blunt about it, solar energy is the single most important natural resource that will dictate the future of the global economy. It is free, renewable, sustainable, and most importantly it has the potential of generating millions of skilled, semi-skilled, and unskilled jobs around the world. Saudi Arabia is fortunate to have the world's

²³ <http://saudigbf.org/pdf/14%20October%20Dr.%20Ahmed%20Al-Hazmi.pdf>

²⁴ <http://www.arabnews.com/news/520866>

largest oil reserves and production capacity, which makes it a prime candidate to transition away from fossil fuels and move to 100% renewable electricity production.

According to K.A.CARE (King Abdullah City for Atomic and Renewable Energy), Saudi Arabia is set to generate 41 GW through solar energy, 9 GW through wind energy, 3 GW through Waste-to-Energy plants, and 1 GW through geothermal energy by 2032. That is a total of 54 GW, which would be about 50% of electricity consumption in the Kingdom. While it is an important step forward, we need to *double* our efforts to speed up renewable energy production and improve energy conservation. The good news, though, is that there is a tremendous potential for employment opportunities for young Saudis. These are jobs that not only pay well, but also bestow the pride and dignity that all employees want to have in their profession.

Saudi Arabia's ACWA Power has recently won a bid to build the world's largest solar power plant in the UAE (200 megawatt). The plant will generate electricity at a record low price of \$0.058/kwh, which is 30% cheaper than today's gas-powered plants in the UAE. This 25-year fixed-tariff deal is a winner for ACWA because the cost of solar power will continue to drop very rapidly, which will give ACWA further advantage relative to its global competitors.

According to a recent study by Deutsche Bank, the total module price for Chinese solar companies went from \$1.31/kwh in 2011 to \$0.50/kwh in 2014; that is a 60% decrease in just 3 years. The study also predicts a further 30-40% price fall in the next few years due to improvements in conversion efficiency and economies of scale (Parkinson 2015²⁵). The solar price decline is not just a Chinese phenomenon, but is happening on a global scale, and it is happening simultaneously as installed solar PV capacity continues to grow at an unprecedented rate. Germany leads the world with more than 38 GW in 2014, followed by China with more than 30 GW. However, China's

²⁵ <http://cleantechnica.com/2015/01/29/solar-costs-will-fall-40-next-2-years-heres/>

installed solar PV capacity is expected²⁶ to produce a record 100 GW by the end of 2018. In other words, accelerating Saudi Arabia's solar PV plans is a tangible reality that can reach 100% of electricity consumption within two decades. Any additional production capacity can take Saudi Arabia to the next level in terms of economic diversification of industrial production and even export through submarine power cables (possibly to Egypt, Sudan, and Eritrea).

With excess capacity of solar-generated electricity Saudi Arabia will have an additional competitive advantage. While today's electricity storage technology is still ineffective, solar surplus countries like KSA have the opportunity to invest in energy-intensive industries with a tremendous export advantage. In other words, there is an indirect way of "storing" and "exporting" solar power; it is through industrial production. While this is an important cost-saving advantage for all manufacturing and mining companies, *Al-Ma-aden* in particular will see its aluminum smelting operations not only become truly sustainable, but also more profitable in the long run.

Furthermore, we must highlight the importance of investing in the solar industry in a holistic way so as to ensure that most of the value added and jobs created are based in Saudi Arabia. Such jobs include installation of solar panels for homes and businesses, sales and distribution, customer service, marketing, management, project development, tech support, and maintenance. On the manufacturing side, there is a whole host of occupations that can be staffed by Saudi men and women. Most importantly, however, given the tremendous advantage that Saudi Arabia will have in terms of electricity surplus, it is imperative to exploit this advantage internally for the solar industry by investing in polysilicon manufacturing²⁷. Polysilicon is a key input in Solar PV

²⁶ <http://www.solarbuzz.com/resources/blog/2014/08/china-on-track-to-have-over-100-gw-of-pv-capacity-installed-in-2018>

²⁷ Saudi Arabia's IDEA Polysilicon Co. is currently negotiating a 20,000 metric-ton plant with US-based REC Silicon. A decision is expected in 2016. The provisioning of cheap solar power can make a huge difference in such negotiations.

production. It is a hyper pure form of silicon, but its production requires extremely high temperature to melt the silicon, hence the opportunity for solar surplus to be used in generating energy for Polysilicon production. Investing in Polysilicon will close the solar production feedback loop and will ensure its independence, resilience, and sustainability in the long run.

Finally, we would like to highlight the importance of supplying this industry with young Saudis who are adequately trained and prepared for the industry through competency-based education (CBE). This can also be done through a School-to-Work Job Guarantee program similar to the Green Construction program outlined above. Therefore, the solar industry must also engage in strategic partnerships with science and technology universities (e.g. KAUST, K.A.CARE), vocational training and education centers, chambers of commerce and industry, as well as the appropriate ministries and government agencies (Ministries of Labor and Social Affairs, Education, Finance, Commerce and Industry, Economy and Planning, Petroleum and Mineral Resources, and Water and Electricity).

4. Public Health & Wellness

A society cannot be truly prosperous simply by having full employment at decent wages. One of the most important indicators of quality of life is the overall level of public health and wellness enjoyed by all members of society. Unfortunately, Saudi Arabia's number one public health challenge is diabetes. While diabetes is a global problem, Saudi Arabia has a prevalence rate of nearly 24%, which is the highest in the Middle East and North Africa region, and ranks the Kingdom seventh in the world. According to the International Diabetes Federation²⁸, 25,000 Saudis died from diabetes

²⁸ http://www.idf.org/sites/default/files/Atlas-poster-2014_EN.pdf

in 2014. About 31% of Saudi children ages 10-14 are diagnosed with Type I diabetes. There is also a direct link between obesity and diabetes. According to a 2012 public health survey, 3 million Saudi children are obese and half of them have diabetes. The overall obesity rate is 36% which ranks the Kingdom fifth globally and third in the Gulf region.

The International Diabetes Federation predicts²⁹ that if no immediate action is taken to reverse these trends, 50% of the Saudi population will have diabetes by 2030. Even more alarming, a recent study by Dr. Nasser Al-Salem Al-Qahtani³⁰ predicts that 75% of Saudis will suffer from obesity by 2020 if no immediate action is taken. In short, this is a public health crisis that kills thousands of people every year, diminishes the quality of life for millions of Saudis, reduces productivity across the economy, and currently costs \$10 billion in healthcare costs (34% of the Ministry of Health's total budget³¹). The good news is that obesity can be eliminated and diabetes can be reduced through healthy diet and physical exercise. However, this is easier said than done. Fighting diabetes requires a measured and sustained public policy coordination involving several Ministries (Health, Education, Higher Education, and Culture and Information), youth and sports organization, food and beverage companies, medical professionals, and media networks.

A public health epidemic of this magnitude calls for the creation of a national campaign to raise awareness, educate the public, offer creative incentives for preventative action, and gradually influence dietary choices and physical activity levels. While the focus should be on the younger generation, targeted programs should be put in place for at-risk adults and for those who already have diabetes. This public health campaign would employ young Saudi men and women in a variety of capacities and

²⁹ <http://www.arabnews.com/food-health/news/727116>

³⁰ <http://www.arabnews.com/saudi-arabia/news/740736>

³¹ <http://www.arabnews.com/food-health/news/727116>

across a broad spectrum of occupations (including marketing, media, social media, public relations, data collection, data analysis, education, training, coaching, and healthcare). Some of these activities could be provided through specialized community organizations funded through government grants or social venture partnerships. In other words, the policy objectives can be set at the national level, but the execution should be done in a decentralized manner.

Obesity and diabetes are not the only public health challenges facing the Kingdom. The list includes other conditions such as high blood pressure, high cholesterol, tobacco use, and all the diseases related to them (e.g., heart disease and cancer). There is the threat of MERS, Ebola, and other contagious diseases that naturally draw national and international attention and lead to fear and panic, but there are also a number of socially stigmatized health conditions that cause a lot of suffering for the patients and their families (e.g., ADHD³², drug and alcohol addiction, and psychiatric conditions). In short, a set of national health and wellness campaigns similar to the one outlined above for diabetes should be organized to form a comprehensive public health platform to reduce the incidence of these health conditions and their negative effects on the Saudi society and economy.

Furthermore, we want to stress the importance of staffing these national public health and wellness campaigns with properly trained and motivated young Saudis who can shepherd these initiatives and have a real positive impact for society. Therefore, we also recommend a School-to-Work Job Guarantee program aimed at preparing young Saudis to take leadership in this national public health and wellness campaign. Finally, we want to highlight a wide range of healthcare occupations³³ that require vocational training rather than a university degree and would, therefore, benefit from a School-to-Work Job Guarantee program. These occupations include dental assistants, dental

³² <http://www.arabnews.com/news/553851>

³³ <http://www.bls.gov/ooh/healthcare/home.htm>

hygienists, diagnostic technologists, EMTs, paramedics, home health aides, medical lab technicians, medical assistants, health information technicians, nuclear medicine technologists, occupational health and safety technicians, pharmacy technicians, Phlebotomists, physical therapist assistants, radiation therapists, radiologic and MRI technologists, respiratory therapists, surgical technologists, prenatal care associates, early childhood development consultants, nutrition consultants, health & wellness consultants, and elderly care associates.

5. Cultural Heritage Preservation

Saudi Arabia enjoys the legacy of centuries of world civilizations at its crossroads. As the birthplace of Islam, the country is a major destination for Muslims from around the globe; and as one of the most prosperous countries in the world, the Kingdom's major cities are multicultural melting pots of burgeoning global intersections.

Nearly two thirds of the Saudi population is under the age of 35, while less than 4% are 65 or older. As the structure of the Kingdom's demographic pyramid shifts and globalization continues to spread, local communities are inevitably influenced and gradually transformed by external factors. While religious traditions are deeply embedded in Saudi culture and are dearly protected by the Kingdom, there are other aspects of Saudi Arabia's culture and heritage that could be eroded and forgotten without a deliberate plan to preserve them. These traditions are usually passed on from one generation to the next by word of mouth and through communal practices. It is those traditions that usually suffer the negative consequences of globalization. The Job Guarantee program can be used as a mechanism to document, catalogue, interpret, and celebrate the Kingdom's cultural diversity, tribal traditions, and multicultural heritage.

About 63% of college students major in education, humanities, Islamic studies, and social sciences. Critics often complain that too much emphasis is put on these fields as opposed to science, engineering, business, and vocational training. While we recognize that a more balanced distribution of training would be beneficial in the long run, we can capitalize on the existing pool of young graduates who are well qualified for cultural heritage preservation jobs. We can think of a variety of oral history projects that are designed to interview the most senior members of the community about local/tribal/regional/national traditions including: wedding ceremonies, folklore, dietary habits, food recipes, clothing styles, traditional dance/music/poetry, travel patterns, family trees, traditional medicine, proverbs, agricultural history, city/town landscape and architecture, and more. The gathered information can be catalogued and organized as a national archive, edited into thematic books, published in online magazines and blogs, and disseminated through social media and traditional media channels.

Some of the output generated by this program will constitute a major cultural attraction from tourists coming from other parts of the Kingdom and from abroad. There is an inherent multiplier effect in terms of benefits to local communities and the national economy. At the individual level, many of the professional skills nurtured in this program are *transferrable skills* (writing, communication, organization, time management, professionalism, work ethic, program development, project management, accounting, audit, KPIs assessment, marketing, and social media). We can envision that some of the employees in this program would develop into experienced historians, sociologists, anthropologists, journalists, writers, poets, translators, and social media consultants. Similarly, their professional skills will give them a competitive advantage in the private sector in the fields such as public relations, marketing, management, sales, customer relations, human resources, and market analysis. Furthermore, one of

the additional benefits of these jobs is the possibility of working on a flexible schedule from home, online, or by phone (phone interviews).

The creation of these cultural heritage preservation programs should be done in cooperation with the Supreme Commission for Tourism and Antiquities, and with additional coordination and funding from the Ministries of Information, Higher Education, Finance, Economy and Planning, and Labor and Social Affairs. The actual execution of these projects can be done through locally based social venture partnerships, but with the appropriate level of coordination and consultation at the regional and national level.

6. Social Media & New Technologies

More than 50% of Saudis are under the age of 25 and are very *connected*. Saudis are the world's number one YouTube users per capita. Saudi Arabia is ranked third in the world in terms of smartphone penetration³⁴ with 72.8% Saudi users, slightly below the U.A.E. at 73.8% and South Korea at 73%. However, Saudi women are the number one users of smartphones in the world at 77.4% and the U.A.E. a distant second at 74.6%. Saudi Arabia also has the largest number of Internet users³⁵ (18 million) and active Twitter users³⁶ (2.4 million) in the Arab region. In other words, Saudi youth are set to become the leading users and generators of social media content in the region. There is an incredible opportunity to leverage their talent, passion, and creativity in a way that creates jobs, sparks innovation, and nurtures entrepreneurship.

A good example of what Saudi youth can do is UTURN Entertainment, which has more than 280 million views on YouTube and more than 8 million followers on

³⁴ <https://think.withgoogle.com/mobileplanet/en/>

³⁵ <http://www.internetworldstats.com/stats5.htm>

³⁶ <http://www.arabnews.com/news/592901>

social media³⁷, most of whom are Saudis. Some of the Job Guarantee programs outlined above have important social media and new technology extensions, especially in the areas of cultural heritage preservation, health and wellness, environmental education, and public safety. Finding new and creative ways of reaching young people and delivering high-quality entertainment and educational content is also an extremely valuable transferrable skill that can be used for the common good as well as for private business development purposes.

Furthermore, the Saudi economy has one of the most fertile grounds for the development of smartphone applications because the user base is large and the needs are abundant. This is where a School-to-Work Job Guarantee program can be introduced to focus on app development, design, marketing, customer relations, and related areas. The program can be an incubator for young people to learn the trade during their school years, then move into a guaranteed job to develop free apps with a social/cultural/educational mission for one of the JG programs outlined above (cultural heritage preservation, diabetes awareness, etc.). Social Media & New Technologies are sectors that can make Saudi Arabia a regional leader in technological innovation, venture capital, finance, and business development.

7. Additional Quality-of-Life Enhancing Services

Given the evolving nature of the Saudi economy and society, we did not attempt to provide a comprehensive list of all the possible Job Guarantee occupations, but rather highlight the wide spectrum of possibilities that can be explored. What follows is a brief list of Job Guarantee projects along that same spectrum. First, one of the most important aspects of designing and implementing well-informed public policies is having access

³⁷ <http://in.reuters.com/article/2013/11/18/saudi-youtube-idINDEE9AH0A520131118>

to high quality data sets (socioeconomic indicators, time series, longitudinal studies, surveys, etc.). The process of data gathering, analysis, and research is a very labor-intensive and skill-intensive enterprise that can leverage and cultivate the skills of many college graduates in the Kingdom. Needless to say, such research skills are also transferrable to private sector occupations in market analysis, marketing, big data research, and the like.

Second, two of the most important obstacles to women's participation in the labor force are access to childcare services and public transportation. Therefore, it may be very logical for some communities to provide those services in-house. In other words, some Job Guarantee workers can be hired to provide transportation, childcare, elderly care, community meals, or any other services needed within the Job Guarantee program.

Third, transforming the existing charitable infrastructure from one that primarily relies on volunteers with minimal experience to non-profit organizations that employ professionally trained full-time staff to support the specific mission of the organization and help build and sustain internal capacity. All such organizations contribute to enhancing quality of life for all members of society, including organizations assisting pilgrims, the elderly, people with disabilities, low-income families, orphans, emigrants, and victims of domestic violence. We also should not forget organizations that promote the welfare and protection of animals because animal cruelty is often the first sign³⁸ for potential violent crimes against humans.

Finally, we must stress the importance of rethinking the concept of "public works" in a way that embraces the skills and aspirations of Saudi youth. In today's Saudi Arabia, public works must produce social value, improve quality of life, protect the environment, preserve cultural heritage, and generate transferrable professional

³⁸ http://www.humanesociety.org/issues/abuse_neglect/qa/cruelty_violence_connection_faq.html

skills. By design, the Job Guarantee program is a transitional employment system; it allows young people to enter the labor market and get on-the-job professional experience while producing something useful for society. In a way, the ultimate long-term benefits of the Job Guarantee program are cultivated by the private sector in terms of added productivity and increased purchasing power for domestic consumers. As a result, it is reasonable to expect involvement and contribution from the private sector to help finance the program through social venture partnerships, but most importantly by providing *pro bono* consulting and mentorship to young social entrepreneurs and local community organizations that are committed to the Job Guarantee program.

IV. Conclusion and Policy Recommendations

Saudi Arabia is at a critical stage in terms of its economic development. Since the 1970s, the Kingdom has built state of the art infrastructure for housing, transportation, telecommunications, public utilities, education, health, tourism, banking and industry. The rapid pace of economic development, which relied heavily on foreign workers, was initially benign, but as the demographic balance began to shift, the country inevitably faced a serious youth unemployment challenge, which came with undesirable social and economic costs. This study estimated that the economic cost of unemployment in terms of lost output is **851.5 billion SAR annually** (\$227.09 billion or 29.97% of GDP). This is not only a waste of potential economic output and national income, but most importantly, it is a missed opportunity to leverage human capital and ingenuity and to give citizens a sense of pride, belonging, and civic participation; all of which are important aspects of their dignity.

This study also recommended the Job Guarantee program as a public policy platform for employing young Saudis through social venture partnerships, community development programs, and some strategic industries such as renewable energy, public health, cultural heritage preservation, and new technologies. When we estimated the cost of employing 2 million Saudis at a living wage of 5,000 SAR with benefits, we found that the entire program would cost only **151.8 billion SAR annually** (\$40.9 billion or 5.4% of GDP), which is about one fifth of the cost of unemployment. In other words, not doing anything already costs five times the amount it takes to allow 2 million Saudis to be productive members of society. This study has also enumerated the social and economic benefits of the Job Guarantee program as well as its non-inflationary nature. We must also stress that our estimation of the cost of unemployment in Saudi Arabia is based on a very conservative set of assumptions and is limited to the economic costs. The actual total cost of unemployment is likely to be even higher than 851.5 billion SAR if we include all the social costs associated with unemployment.

After demonstrating that the question of affordability is essentially irrelevant, we turned our attention to some practical aspects of financing the program and to some realistic examples of jobs that fit the needs of the Saudi economy and the talent and aspirations of Saudi youth. In terms of financing the program, our analysis shows that Saudi Arabia enjoys a very high level of financial sovereignty that allows it to finance the program without any pressure on the exchange rate or domestic prices. We have also outlined a more decentralized and participatory financing mechanism that leverages management skills and financial resources from the private sector in a way that helps young Saudis develop transferrable skills while serving as agents of local community development. These social venture partnerships have the advantage of being custom made at the local level to not only meet the needs of each community, but also leverage the passion, skills, and creativity of these young entrepreneurs.

Our approach to job creation is tailored to the specific needs of the Saudi economy. In particular, we have emphasized the need for diversifying the structure of the economy and the composition of the skill-mix that is produced by the educational system. Our proposal includes an incentive-based School-to-Work system to attract young Saudis into vocational training in some strategic industries including green construction, solar industry, public health, and media and new technologies.

In closing, we would like to highlight the importance of some key reforms that must accompany our Job Guarantee proposal. First, education and vocational training reforms must continue to align pedagogical tools and learning goals with the needs of a more diversified economy. Second, Saudization programs that focus on quotas as opposed to the skills needed by the private sector will only marginally improve the chances of Saudis in the labor market while hurting productivity in the private sector (e.g., recent experience in the construction industry). We must recognize that many foreign workers bring valuable experiences and skill sets that are important for the Saudi economy. True Saudization cannot be achieved very quickly without negative consequences, which is why we stress the importance of well-targeted School-to-Work programs that can guarantee adequate Saudization within a 5- to 10-year frame. Third, Saudi Arabia must continue labor market reforms to regulate standards for work hours, workplace environment, and safety standards. Saudi youth, and women in particular, do not tolerate long workdays, limited holidays, and meager salaries/benefits that are common in the retail industry. Fourth, the Saudi government and the private sector must coordinate their efforts to reduce the compensation and workload gaps between government and private sector jobs for Saudis, and for foreign workers in the private sector. Fifth, improving female labor force participation and employment rate requires additional commitment from both the government and the private sector to ensure reasonable working hours, flexible schedules, telecommuting options, public transportation, adequate working environment, childcare services, and maternity

benefits. Finally, we should acknowledge that employment policy cannot be designed and implemented by one or two Ministries; it is rather a national effort that should be coordinated with a number of relevant Ministries, government agencies, educational institutions, and regional chambers of commerce and industry.

Saudi Arabia has a tremendous opportunity today to set its economy onto a path of sustainable prosperity that can be a model for further economic development in the GCC and the rest of the Middle East and North Africa. Our entire team at the *Binzagr Institute for Sustainable Prosperity* is looking forward to the opportunity of designing and implementing pilot projects to demonstrate the effectiveness of our proposal, and to the possibility of scaling up the program to the national level.

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About The Binzagr Institute for Sustainable Prosperity

The Binzagr Institute for Sustainable Prosperity is an independent public policy think-tank dedicated to the promotion of interdisciplinary research in the service of an improved quality of life for all members of society. We believe that providing decent employment opportunities for everyone ready, willing and able to work at a socially established living wage is an institutional prerequisite for social justice and sustainable prosperity. “Sustainable prosperity” is conceived here holistically, to encompass the physical, mental, environmental, financial, educational and civic wellbeing of all individuals, families, neighborhoods, and regions throughout the world.

The Binzagr Institute recognizes that sustainable prosperity in this sense requires the development of a multifaceted public policy framework addressing the root causes of global, national, and regional socioeconomic challenges. Toward this end, we seek to engage, inspire, and help build capacity in cooperation with academic institutions, policymakers, citizens & workers, social entrepreneurs, philanthropists, businesses, NGOs, and local & global changemakers.

While taking employment policy as our point of departure, our research agenda embraces a variety of topics that are critical for establishing ongoing sustainable prosperity. Such topics include, but are not limited to, financial sovereignty, community development, gender equity, energy & the environment, health & wellness, agricultural & trade policies, social entrepreneurship, science & technology, innovation, education, youth policies, local capacity building, social venture partnerships, arts & culture, law & justice, and global peace studies.

We invite you to join with us in working for greater socioeconomic opportunities and sustainable prosperity for all. We are always delighted to hear your thoughts & ideas, questions & concerns, and hopes & dreams.