





- 14 CONVERSATION WITH THE DIRECTOR CESAR CUNHA CAMPOS
- 18 INFRASTRUCTURE INVESTMENTS AND INFRASTRUCTURE IN BRAZIL RUBENS PENHA CYSNE
- 22 ENERGY
 BIOFUELS ENERGY FOR THE WORLD
 ROBERTO RODRIGUES
- 30 URBAN REVITALIZATION RIO'S SUBWAY LINE 4
 CESAR CUNHA CAMPOS,
 - LUIZ CARLOS DUQUE
- 34 SPORTS
 A POWERFUL ASSET: ASSESSING SOCCER'S
 ECONOMIC AND FINANCIAL IMPACT

ANTONIO CARLOS KFOURI AIDAR, FERNANDO BLUMENSCHEIN

- THE AGENDA OF THE NEW MIDDLE CLASS
- 44 2010 TECHNICAL ASSISTANCE PROJECTS
- 52 PUBLICATIONS
- 56 INTERNATIONAL
- 58 ABOUT FGV PROJECTS

THE POWER OF



```
NACIONAL DE APRENDIZAGEM INDUSTRIAL - SERVIÇO SOCIAL DA INDUSTRIA • SINDICATO DAS EMPRESAS DE TRANSPORTES DE CARGA DE SAO PAULO • SKANSKA INFRASTRUCTURE DEVI
PARTICIPAÇÕES • TECNISA • TELEMAR NORTE LESTE • TKX INDÚSTRIA MADEIREIRA • VOTORANTIM CELULOSE E PAPEL • ORGANIZATION OF AMERICAN STATES • AUDITORIA GERAL DO ESTAD
SANTO • AGÊNCIA REGULADORA DE ENERGIA E SANEAMENTO BÁSICO DO ESTADO DO RIO DE JANEIRO • ARSENAL DE GUERRA DO RIO DE JANEIRO / EXÉRCITO BRASILEIRO • COMPANHIA DOC
DE SÃO PAULO • FUNDAÇÃO DE APOIO A ESCOLA TECNICA DO ESTADO DO RIO DE JANEIRO • FUNDAÇÃO ESTADUAL DE ENGENHARIA DO MEIO AMBIENTE / RIO DE JANEIRO • INSTITUTO DE ASSISTEN
AO SERVIDOR PÚBLICO ESTADUAL / SÃO PAULO • INSTITUTO SUPERIOR PROFISSIONAL POLITÉCNICO DE ANGOLA • MINISTÉRIO DO ESPORTE • MINISTÉRIO DO TURISMO • POLÍCIA CIVIL DO ESTADO
JANEIRO • PREFEITURA MUNICIPAL DE DIADEMA • PREFEITURA MUNICIPAL DE RIO CLARO • PREFEITURA MUNICIPAL DE SANTO ANDRE • PREFEITURA MUNICIPAL DE VARZEA PAULISTA • SECRETAR
DO RIO DE JANEIRO • SECRETARIA ESTADUAL DE GESTAO PUBLICA DE SAO PAULO • SECRETARIA MUNICIPAL EXECUTIVA DE COMUNICAÇÃO DE SÃO PAULO • SECRETARIA MUNICIPAL
COPA DO MUNDO FIFA 2014 • DEDINI • EMPRESA BRASILEIRA DE TECNOLOGIA E ADMINISTRAÇÃO EM CONVENIOS HOM • ENERGIA SUSTENTAVEL DO BRASIL • FUNDAÇÃO ROBERTO MAR
EUVALDO LODI. NUCLEO REGIONAL DO ESTADO DO RIO DE JANEIRO • JOCKEY CLUB DE SÃO PAULO • GRUPPO MOSSI & GHISOLFI • MITSUI & CO. • NC ENERGIA • PRÁTICOS SERVIÇOS DE PRATI
DE SANTOS E BAIXADA SANTISTA * ROBISI EMPREENDIMENTOS E PARTICIPACOES * SERVIÇO NACIONAL DE APRENDIZAGEM DO COOPERATIVISMO * CONFEDERAÇÃO NACIONAL DAS COOPERATI
SINDICATO DAS AGENCIAS DE PROPAGANDA DO ESTADO DE SÃO PAULO • SINDICATO DAS EMPRESAS DE TRANSPORTE DE PASSAGEIROS NO ESTADO DE MINAS GERAIS • SINDICATO DA
CONSTRUÇÃO CIVIL DO ESTADO DO ESPÍRITO SANTO • SPLICE DO BRASIL - TELECOMUNICAÇÕES E ELETRÔNICA • TECNO LOCKER LOCAÇÃO DE BENS • TECON SALVADOR • UNIPAR
ETROQUÍMICAS • VOTORANTIM INDÚSTRIAL • INSTITUTO REGIONAL DE PESQUISA DA LOMBARDIA • MINISTERIO DE ECONOMIA DE EL SALVADOR • INSTITUTO POLO INTERNACIONAL IGUASSU
            TECNOLOGÍA EM IMUNOBIOLOGICOS-FUNDAÇÃO OSWALDO CRUZ • BRB - BANCO DE BRASILIA • COMPANHIA DE ÁGUAS E ESGOTOS DO RIO GRANDE DO NORTE • CÂM.
  RBARA DO OESTE • CAIXA ECONÔMICA FEDERAL • FUNDAÇÃO CENTRO ESTADUAL DE ESTATÍSTICAS, PESQUISAS E FORMAÇÃO DE SERVIDORES PÚBLICOS DO RÍO DE JANEIRO • CASA
           DA FAZENDA • CONSELHO NACIONAL DE JUSTIÇA • CONSELHO REGIONAL DE ODONTOLOGIA DE SÃO PAULO • MINISTERIO DA JUSTIÇA / DEPARTAMENTO DE POLÍCIA
              iro • lifesa - laboratorio industrial farmaceutico do estado da paraiba - ministerio das relacoes
 REFEITURA MUNICIPAL DE ANGRA DOS REIS • PREFEITURA MUNICIPAL DE IPATINGA • PREFEITURA MUNICIPAL DE LEME • PREFEITURA MUNICIPAL DE MARACANAŬ » PREFEITURA MUNICIPAL
 REFEITURA MUNICIPAL DE SANTA BARBARA D'OESTE • PREFEITURA MUNICIPAL DE SANTANA DO PARNAÍBA • PREFEITURA MUNICIPAL DE TABOÃO DA SERRA • SECRETARIA DE ESTADO DA GEST
                DE RORAIMA . SECRETARIA DE ESTADO DE DESENVOLVIMENTO SOCIAL E TRANSFERÊNCIA DE RENDA DO DISTRITO FEDERAL . SECRETARIA DE ESTADO DE SAÚDE DO E
               STADO DE TURISMO DO ESPÍRITO SANTO • SECRETARIA DE ESTADO DE TURISMO DE MINAS GERAIS • SECRETARIA MUNICIPAL DE FINANÇAS DE GUARULHOS • SECRETAR
                                                                                                                           ZER E RECREAÇÃO DE SÃO PAULO . SECR
      AMENTO E GESTÃO DE PERNAMBUCO • SECRETARIA
                                                    STADUAL DE TURISMO DE PERNAMBUCO -
                                                                                        SECRETARIA MUNICIPAL DE ESPORTES
                                                                                                                                   MUNICIPAL DE RECURSOS HUMAN
      ANCAS DE DIADEMA
                        SECRETARIA MUNI
                                                                                        GESTÃO DE PESSOAS DE DIADEMA • 5
                                                                                                                          CRETARIA
                                         ECRETARIA MUNICIPAL DE DESENVOLVIN
                        SAUDE DE NATAL • :
                                STICA DA PARAÍBA • TRIBUNAL
                                                                       EITORAL * EMPR
                                                                                              SENVOLVIMENTO URBAI
                                  DE ALGODAO • ASSOCIAÇÃO
                                                          BRASILEIRA DE CARTOES DE CR
Brasileira dos terminais de containeres de uso público • agencia de fomento do estado do Rio de Janeiro • alcoa World Alumina Brasil • associação brasileira
ORGANIZADOR DOS JOGOS OLÍMPICOS RIO 2016 • SERVICO NACIONAL DE APRENDIZAGEM COMERCIAL DO MATO GROSSO DO SUL • COMPLEXO INDUSTRIAL PORTUÁRIO • GOVERNADOR
SUAPE • UNIÃO BRASILIENSE DE EDUCAÇÃO E CULTURA • ULTRAPAR PARTICIPAÇÕES • UNIÃO BRASILEIRA DO BIODISEL • VIAÇÃO SENHOR DO BONFIM • WHIRLPOOL • 1975RMF PARTICIPA
ESTADUAL DE REGULAÇÃO DE SERVICOS PÚBLICOS DE ENERGIA. TRANSPORTES E COMUNICAÇÕES DA BAHIA • BANCO CENTRAL DO BRASIL • BANCO DO BRASIL • CÂMARA MUNICIPAL DA ESTÂNCIA
COMPANHIA DAS DOCAS DO ESTADO DA BAHIA • COMPANHIA PERNAMBUCANA DE SANEAMENTO • COMPANHIA DE TRANSMISSÃO DE ENERGIA ELETRICA PAULISTA • CENTRAIS ELETRICAS
      / ELETRONORTE • FINANCIADORA DE ESTUDOS E PROJETOS / FINEP • FUNDAÇÃO OSWALDO CRUZ • GOVERNO DO ESTADO DA ALAGOAS • GOVERNO DO ESTADO DO ACRE • GUARDA
      DO RIO DE JANEIRO • INSTITUTO NACIONAL DE ESTUDOS E PESQUISAS EDUCACIONAIS ANISIO TEIXEIRA • INSTITUTO DE PESQUISA JARDIM BOTÂNICO DO RIO DE JANEIRO • MINISTER
UPERINTENDENCIA MUNICIPAL DE TRANSITO E TRANSPORTES DE SALVADOR • TRIBUNAL REGIONAL ELEITORAL DO PARA • GRUPO ABC • ABIMAQ - ASSOCIAÇÃO BRASILEIRA DA INDUSTRI
EQUIPAMENTOS • ACOTECNICA • AGUAS DO IMPERADOR • ALUMINIO BRASILEIRO • ASSOCIAÇÃO BRASILEIRA DAS ENTIDADES DOS MERCADOS FINANCEIRO E DE CAPITAIS • ASSOCIAÇÃO
REGISTRADORES DO ESTADO DO RIO DE JANEIRO • ASSOCIAÇÃO DOS FABRICANTES BRASILEIROS DE COCA-COLA • AURIZÔNIA EMPREENDIMENTOS • AVON COMESTICOS • BADESC - AGÊNCIA D
ESTADO DE SANTA CATARINA • BM&F BOVESPA S/A • BOLSA DE VALORES, MERCADOS E FUTUROS • BRADESCO SEGUROS • BOLSA DE VALORES DE SÃO PAULO • BOVESPA • COMPANHIA ENERGÉT
GERAIS / CEMIG • COMPANHIA DE ELETRICIDADE DO ESTADO DA BAHIA • COMPANHIA AGUAS DE ITAPEMA • COMPANHIA ENERGÉTICA DO RIO GRANDE DO NORTE • DISMAF DISTRIBUIDORA DE MAI
ELCANA GOIÁS USINA DE ÁLCOOL E ACÚCAR • ELEKEIROZ • EMPRESA METROPOLITANA DE TRANSPORTES URBANOS DE SÃO PAULO • FEBRABAN FEDERAÇÃO BRASILEIRA DE
          DAS INDÚSTRIAS DO ESTADO DE SÃO PAULO
RIO DE JANEIRO • FUNDAÇÃO ESTADUAL DE ENGENHARIA DO MEIO AMBIENTE / RIO DE JANEIRO • INSTITUTO DE ASSISTÊNCIA MEDICA AO SERVIDOR PUBLICO ESTADUAL / SÃO PAULO • INSTITUTO SUPERIO
PROFISSIONAL POLITÉCNICO DE ANGOLA • MINISTÉRIO DO ESPORTE • MINISTÉRIO DO TURISMO • POLÍCIA CIVIL DO ESTADO DO RIO DE JANEIRO • PREFEITURA MUNICIPAL DE DIADEMA • PREFEITURA MUNICIPAL
DE RIO CLARO • PREFEITURA MUNICIPAL DE SANTO ANDRE • PREFEITURA MUNICIPAL DE VARZEA PAULISTA • SECRETARIA DA FAZENDA DO ESTADO DE SÃO PAULO • SECRETARIA DE ADMINISTRAÇÃO
```

FGV PROJECTS USES THE KNOWLEDGE PRODUCED BY FGV FOUNDATION'S SCHOOLS AND RESEARCH CENTERS TO CREATE EFFICIENT ECONOMIC AND MANAGEMENT PRACTICES FOR PUBLIC AND PRIVATE INSTITUTIONS

TO CONTRIBUTE TO THE GROWTH OF BRAZIL AND THE WORLD

FGV PROJECTS CREATES
BEST PRACTICES AND
PRACTICAL SOLUTIONS
FOR KEY SECTORS:
ECONOMICS AND
FINANCE PUBLIC POLICIES
ADMINISTRATION

AGRIBUSINESS AGRIBUSINESS AGRIBUSINESS COMMUNICATIONS AND NEUROMARKETING MEDIA AND TECHNOLOGY MEDIA AND TECHNOLOGY CONSUMPTION AND RETAIL CONSUMPTION AND RETAIL **CULTURE CULTURE EDUCATION EDUCATION ENERGY ENERGY ENERGY GOVERNMENT GOVERNMENT INDUSTRY INDUSTRY** INDUSTRY **JUSTICE JUSTICE**JUSTICE **HEALTH HEALTH HEALTH PUBLIC SAFETY PUBLIC SAFETY** SERVICES SERVICES SOCIAL RESPONSIBILITY AND SUSTAINABILITY **SPORTS SPORTS** TELECOMMUNICATIONS TELECOMMUNICATIONS TRANSPORTATION TRANSPORTATION TRANSPORTATION **TOURISM TOURISM TOURISM**

A CONVERSATION WITH CESAR CUNHA CAMPOS

DIRECTOR, FGV PROJECTS

FGV PROJECTS IS RESPONSIBLE FOR
APPLYING THE ACADEMIC KNOWLEDGE
GENERATED AND ACCUMULATED WITHIN
FGV SCHOOLS AND INSTITUTES. HOW DO
YOU FULFILL THIS MISSION?

We undertake projects that contribute to effective management and economic practices in public and private institutions, both at home and abroad. We operate in 17 Brazilian states and more than 15 countries. In 2010, we initiated 180 new projects, while continuing to work on 150 projects that were ongoing, thereby playing a leading role in advancing economic development in Brazil and overseas.

WHAT WERE THE MAIN ACCOMPLISHMENTS OF FGV PROJECTS IN 2010?

New projects in 2010 included a seminar marking the ten-year anniversary of the Tax Liability Act, a seminar on 2010 Exchange Rate Perspectives, a study on socioeconomic impacts of Brazilian professional soccer, strategic mapping of tourism for the FIFA World Cup in Brazil, and analysis of the projected impact of the 2016 Olympic Games.

In 2010, FGV Foundation also undertook major projects related to infrastructure and quality of life in Brazil's cities, including: studies for developing a museum and theater complex in Vitória, the capital of Espírito Santo State; a study for the "Nova Luz" urban planning project in a historic district of downtown São Paulo; advisory services for extending Rio de Janeiro's subway lines; and a review of Rio de Janeiro's Master Plan.

FGV PROJECTS ALSO OPERATES
INTERNATIONALLY, SHARING BRAZILIAN
KNOW-HOW AND INNOVATION WITH OTHER
COUNTRIES. WHAT WERE YOUR MAIN
INTERNATIONAL PROJECTS IN 2010?

In the international arena, Brazil has been active on issues relating to sustainable development, namely by seeking potential sources for biofuel production in Africa, Latin America and the Caribbean, where we are in the process of developing biofuel production feasibility studies. Two notable FGV Projects publications in this area are "Biofuel Production in the Republic of Senegal" and "Biodiesel and its Contribution to Brazilian Development".

In 2010, we also formalized partnerships with the World Bank (IBRD) and the Inter-American Development Bank (IDB), as well as with other development agencies and representation offices. FGV Foundation is regarded at home and abroad as one of the country's best placed institutions to assist and support organizations wishing to invest in Brazil.

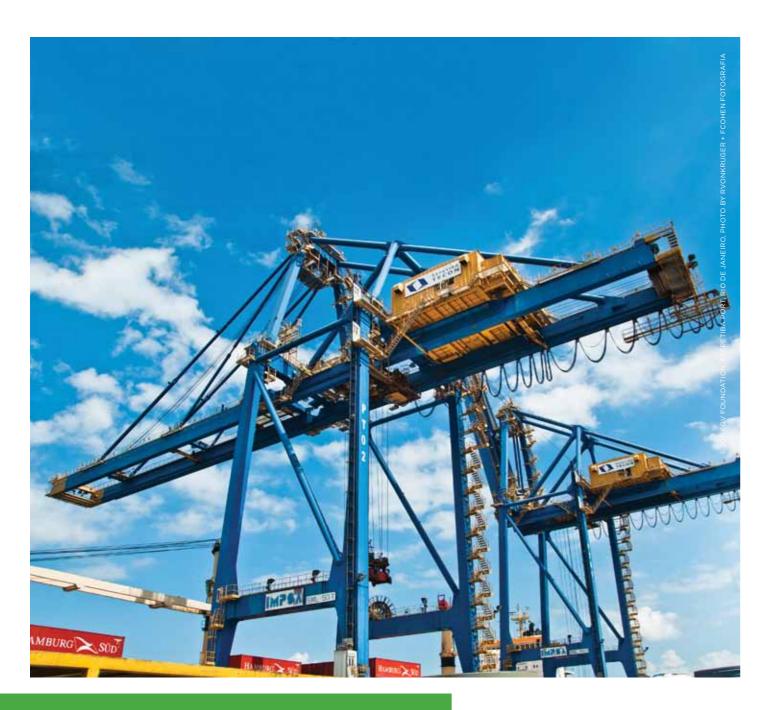
IN YOUR OPINION, WHAT ARE SOME OF THE MAIN CHALLENGES FACING THE NEW BRAZILIAN GOVERNMENT?

Throughout the financial market downturn that began in 2008, Brazil has demonstrated the strength of its economy and an impressive capacity for recovery. As of the end of 2010, the country had shown significant GDP growth compared to other national economies since the global financial crisis began. Over the past ten years, almost 30 million citizens have joined the Brazilian middle class and employment rates have reached impressive levels.

Going forward, the government will have the formidable task of adjusting tax policy and keeping interest rates at levels that keep inflation under control without shrinking the economy. Brazil also needs to continue to improve in the areas of health, education, security and infrastructure. Much preparation is needed in the 2014 FIFA World Cup host cities, as well as in Olympic Games host city of Rio de Janeiro, so these cities can receive world-class sporting events in a way that benefits their citizens.

14 \cdot





INFRASTRUCTURE INVESTMENTS IN BRAZIL REPRESENT 2.5% TO 3.0% OF GDP.

INFRASTRUCTURE

INVESTMENTS AND INFRASTRUCTURE IN BRAZIL

RUBENS PENHA CYSNE

DEAN, SCHOOL OF ECONOMICS - EPGE WWW.EPGE.FGV.BR/USERS/RUBENS

The government's balance sheet for 2003-2010, available on the website of the Presidency of the Republic of Brazil, provides details of accomplishments in sectors including energy and mineral resources, transportation logistics, water infrastructure, communications, and management of cities¹. But despite these efforts, the country's infrastructure and capital formation as a whole have taken a road that is less than desirable.

In general, infrastructure investments in Brazil over the past five years are estimated at no more than 2.5%-3.0% of GDP². These figures are far below those needed to provide basic sanitation to all households or even to guarantee minimum safety standards on busy roads. Today, it is generally acknowledged that of this already low infrastructure investment figure, approximately 35% is private-sector investment, 40% comes from state companies, and the remainder comes from the federal government.

Even by Latin American standards, these numbers are very low. Colombian and Chilean infrastructure investments (as a percentage of GDP) are more than double those of Brazil. Brazil's under-investment in infrastructure is even more apparent when compared to China and other countries in Asia and the Pacific that compete with Brazil on international markets.

At the heart of the matter lies the public sector's direct influence over regulation, incentives and even capital formation. However, several more concrete factors have contributed to the relative shortage of infrastructure investments.

The first factor contributing to underinvestment in infrastructure relates to the
large proportion of mandatory expenses in the
federal budget. These expenditures make the
government's public investments a residual
account that depends on funds left over after
the government's current expenses, such as
pensions and public consumption, have been
met. When these government expenditures
increase, infrastructure investments are
normally reduced to achieve the desired
primary deficit targets. Other factors restricting
government investment expenses are Brazil's
constitutionally mandated government

spending limits and the effects of the rising minimum wage on mandatory social security benefits.

Secondly, the country lacks a stable regulatory framework and does not have sufficiently large long-term markets for credit. Contributing to this are: inconsistencies and back-tracking in relevant legislation; the sluggishness of the judiciary; public sector intervention in private business administration; and, more recently, the over-eagerness of the public sector to provide long-term credit at subsidized rates.

Due to all these factors, the public sector under-invests in infrastructure, resulting in little investment by the private sector as well due to crowding-in of public and private capital formation.

Let us now move on to a macroeconomic analysis of the issue, looking at the economy's investments as a whole. This analysis is of interest because there is normally a positive correlation between infrastructure investments and overall investments³. The graph on page 21

¹ The interested reader can use this website to obtain a detailed description of public efforts to raise the quality of national infrastructure.

² See, for example, for the 2001-2006 period, the data of C. Frischtak in "Infrastructure Investment in Brazil," a paper presented at the Brazilian Investment Banks' Association's 4th Capital Markets Seminar.



THERE IS A POSITIVE
CORRELATION BETWEEN
INFRASTRUCTURE INVESTMENTS
AND OVERALL INVESTMENTS.

shows Brazilian macroeconomic data from 1995 to 2010 related to internal savings (in red) and gross fixed capital formation (in blue), both as a percentage of GDP.

Two points can immediately be inferred from the data. First, current rates are very low when compared to the investment rates of the 1970s (around 23% of GDP) or the capital formation of Pacific Rim countries that compete with Brazil on international markets (between 25% and 40% of GDP).

Second, starting in 2008, Brazil switched from being a net exporter of internal savings to being an importer of external savings. This is hard to justify, especially given the astonishing rate of this trend (which reached around US\$ 47.5 billion in 2010), in a period when the terms of trade with other countries, namely the ratio between export and import prices, proved quite favorable.

Depending on the quality and subsequent performance of investments in coming years (public policies are also decisive here), one would expect a large increase in the average growth rate over the next decade. Another contributing factor to this is that Brazil, like China after 1978, is able to grow in a number of areas without being overly concerned about the displacement of its technological frontier. At the same time, the scope of the technological frontier signals economic emergence and great opportunities whereby small internal institutional improvements can raise growth rates considerably. Some examples of these improvements are the opening-up to international trade, further receptivity to direct investment from abroad, and a macroeconomic management concerned with long-term planning.

INVESTMENT RATE AND GROSS SAVINGS RATE

% GDP



³ "Infrastructure," usually associated with the water, sanitation, electricity, telecommunications and transportation (road, rail, water and air) industries, forms a large part of a nation's capital formation. Since Brazilian capital formation is low relative to both historic national and current international rates, it is reasonable to expect a similar slump in Brazilian infrastructure investments.



BIOENERGY CAN POSITIVELY CHANGE THE GLOBAL AGRICULTURAL PARADIGM.

ENERGY

BIOFUELS — ENERGY FOR THE WORLD

ROBERTO RODRIGUES¹

COORDINATOR, AGRIBUSINESS CENTER
SCHOOL OF ECONOMICS - EESP

Bioenergy is a viable option to meet global demand for clean, renewable energy. At the same time, bioenergy can mitigate global warming and generate employment opportunities by producing biofuels and bioelectricity, and, in colder countries, by using sugar cane bagasse and dry leaf pellets instead of coal and charcoal in fireplaces. Bioenergy is not intended to be the only approach to energy security, of course, but it does offer an attractive alternative.

Brazil has the agricultural, industrial and automotive technologies to mix, distribute and market biofuels. The mistakes we have made in the past have helped to show us the right direction.

Bioenergy can positively change the global agricultural paradigm because bioenergy need not compete with food production: the two can easily co-exist. Bioenergy can even change global geopolitics by giving the planet's poorest countries an opportunity to achieve sustainable development.

Producing bioenergy is different from producing food. Any country can produce food, although it can be costly to do so. Food security perpetuates agricultural protectionism, which has hampered international agricultural markets but solved the problem of food supply in post-war Europe.

While food can be produced almost anywhere, bioenergy can only be produced in certain environments because it depends on three factors: the soil (and everything in it, such as nutrients and water), plants, and the sun. The necessary sunlight is primarily available in the tropics, the region that includes the less developed countries of Latin America, Africa and Asia that, when financed by the major consumers of the northern hemisphere, will be the future guarantors of energy security.

By growing sugarcane or pulp, these poorer countries can generate employment, income and wealth, and will be able to produce energy for their own consumption, facilitating development and boosting exportable surpluses.

Additionally, they can produce food in rotation with sugarcane, as has been done in Brazil since the 1970s.

However, less developed countries depend on a sound institutional framework, both internationally and domestically, to be able to take full advantage of the benefits of bioenergy.

While there is not yet an internationally drafted strategy for bioenergy, there has been notable progress. Most importantly, there is now an agreement between Brazil and the USA to produce ethanol in the Caribbean and Central America, at the initiative of the Brazilian Foreign Office, Brazilian Trade and Investment Promotion Agency, Inter-American Development Bank and Brazilian National Bank for Economic and Social Development. Likewise, there is now momentum towards developing projects in Africa, and there are ongoing negotiations between Petrobras, Brazil's largest petroleum company, and Mitsui to develop Asian markets.

¹ Coordinator of FGV Foundation's Agribusiness Center, president of the São Paulo State Industrial Federation's Higher Council for Agribusiness, and Rural Economics professor at São Paulo State University in Jaboticabal.

One can argue that these developments irreversibly globalize biofuels. The arrival in Brazil of major energy-sector and agribusiness multinationals² for the purpose of producing ethanol is a clear sign that globalization is already occurring. Furthermore, work has already begun with ethanol-based sub-products produced by companies like Amyris and Braskem.

While an international strategy for bioenergy is sorely needed, so is a domestic one. If Brazil had a clear strategy, we could accelerate the use of bioenergy throughout the world. Brazil needs a national bioenergy department at a ministerial level to set up a comprehensive strategy. Although there is support for this idea in both public and private national discourse, actions are

PERCENTAGE
OF RENEWABLE
ENERGY IN
BRAZIL'S
ENERGY MATRIX

inconsistent and poorly planned. Some efforts are underway, especially in the private sector, but they come up against a lack of coordination in the public sector.

Incredibly, as many as 12 ministries currently address bioenergy, as do Petrobras and the National Petroleum Agency, the Brazilian Agricultural Research Corporation, national institutes for Meteorology and for Metrology, Standardization and Quality Control, the National Water Agency, and scores of other federal, state, regional and local institutions.

All of these institutions have top-quality people, competent specialists and enthusiastic employees, but they seldom talk to one other. This lack of communication is why progress is delayed, and it is also the reason for illogical cycles of high and low prices.

We do not know for sure how much ethanol we need or want to produce in the coming years. We do not know what the production model will be or how the income it generates will be distributed. Stakeholder groups argue about the logistics, from production zones to consumer centers and ports.

Moreover, no one has been appointed to look after storage, a key issue for a strategic product such as biofuel. Technology resources are scattered, with no coordination between old and new research centers. Training human resources for a project of this size is essential, but at present this training is carried out with no centralized coordination whatsoever.

It is critical that we establish models for exporting technology abroad that will allow us to sell complete plants, entire experimental stations, and production, mixing and distribution systems. It is imperative to sell ethanol worldwide, but first we need to teach countries how to produce it and how to create an internal market. This is the only way there will be a global market, and when that happens, Brazil will be well placed to capitalize on its experience and know-how.

We need to show the whole world what many people already know about our energy matrix — that 47.2% of it is renewable energy. We also need to publicize the amazing reduction

in CO₂ emissions that has resulted from using ethanol rather than gasoline.

Finally, we need to put an end to the myths that disrupt the whole process, including the misconceptions that biofuels will necessarily push up the price of food, and that Brazil must cut down the Amazon rainforest to produce ethanol. These myths have already been so completely disproven that only bad faith can explain their continued existence.

In short, biofuels will eventually be accepted worldwide because they are necessary and ready. This change would take place much sooner with both internationally drafted and domestic strategies worthy of the concept of bioenergy. With these strategies, we can contribute to the improvement of the world for the good of all humankind.



BIOENERGY DOES NOT NEED TO COMPETE WITH FOOD PRODUCTION.

25

² Recent entrants include agribusiness companies Bunge, Cargill, Dreyfus and ADM, in addition to major oil companies such as TOTAL, Shell and BP.

TONS OF OIL EQUIVALENT (TOE) 0 - 1.5 1.5 - 3.0 3.0 - 4.5 4.5 - 6.0 > 6.0

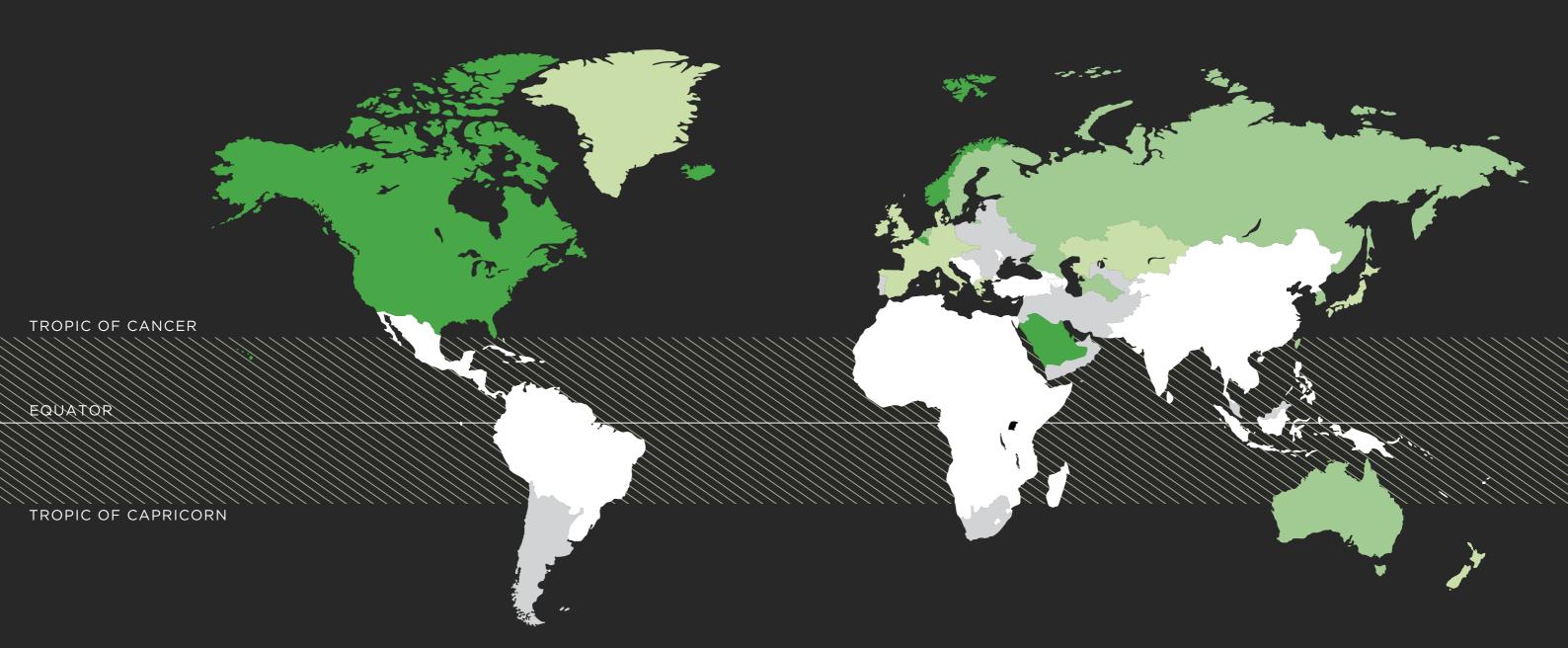








INTERTROPICAL ZONE
IDEAL ENVIRONMENT FOR BIOFUEL PRODUCTION



SOURCE: BP STATISTICAL REVIEW OF WORLD ENERGY
ELABORATION: FIESP DEAGRA

ENERGY MATRIX IN 2009

BRAZIL'S EXAMPLE

LIFECYCLE OF ETHANOL FROM SUGARCANE

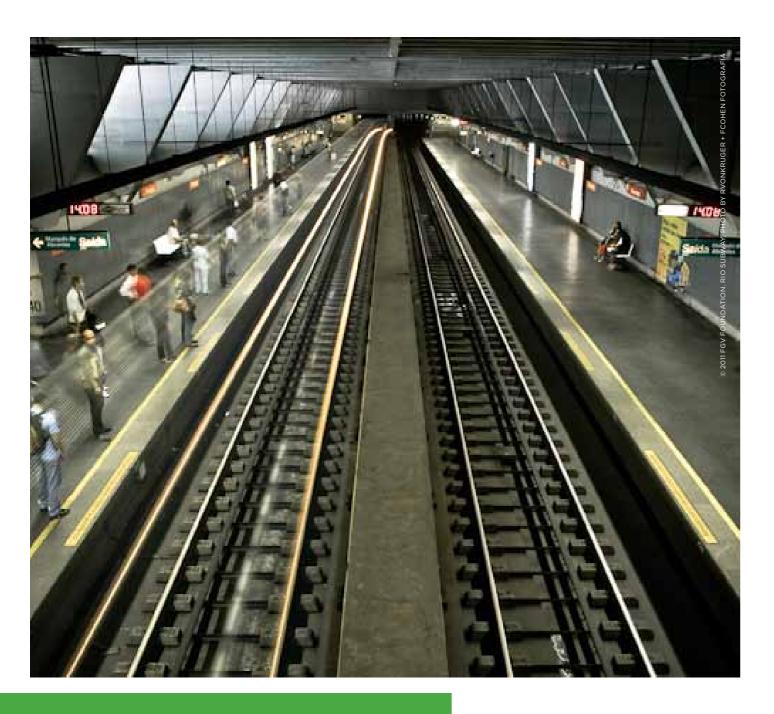
BALANCE OF CO2 EMISSIONS



ETHANOL BALANCE: 260 KG CO₂ (-89% OF GASOLINE EMISSION)

EPA/USA RECOGNIZED THE ETHANOL OF SUGARCANE AS AN ADVANCED BIOFUEL.

SOURCE: MACEDO, I. 2008



THE SUBWAY EXTENSION IS PART OF A BROADER STRATEGIC PLAN FOR TRANSPORTATION.

URBAN REVITALIZATION

RIO'S SUBWAY LINE 4

CESAR CUNHA CAMPOS
DIRECTOR

LUIZ CARLOS DUQUE

PROJECT COORDINATOR

Brazil's urban population overtook its rural population in the 1960s, and has since remained predominantly urban. The accommodation of this burgeoning urban population has proved a challenge for many Brazilian cities.

The population of Rio de Janeiro has doubled over the past 50 years, from around 3.2 million in 1960 to 6.3 million in 2010. Rio is the rule and not the exception: the urbanization of Brazil is expected to continue over the next few years, driving up demand for increased and improved housing, energy, sewage and transportation infrastructure, as well as education, health and security services.

In addition to addressing the needs of its growing population, Rio de Janeiro is hosting the 2014 FIFA World Cup and the 2016 Olympic Games. While these events present challenges, they are also an enormous opportunity for the city to take a significant leap in terms of its quality of life. One example is the attention being given to Rio de Janeiro's subway network, which is in great need of improvement.

It is certain that Brazil's strong economic performance in recent years has opened up more resources for infrastructure. The first subway stations in Rio's South Zone were completed in the 1980s, but subsequent expansion in that area has been slow. The subway network only reached the shoreline in 1998, when the Cardeal Arcoverde Station was inaugurated in the famous neighborhood of Copacabana. Little has been done since; only three new stations have been added on this line, which finally reached Ipanema only in 2010.

A faster rate of expansion of the subway lines — absolutely essential for the city's transportation system — depends on a combination of factors in the business, political-administrative and technical areas. With these many considerations, how will the expansion rate of the network — currently one station every three to four years — suddenly accelerate to accommodate five new stations in the next three years?

There is now a proposal from the Brazilian Olympic Committee to extend the subway to Barra da Tijuca, the neighborhood that will house many of the facilities for the 2016 Olympic Games. This extension is part of a broader strategic plan for transportation, and integrates commitments made by the government of the State of Rio de Janeiro and the International Olympic Committee in preparation for the 2016 Olympic Games.

The issue is not only about the availability of funds, but rather the need for technical skills and public-private coordination. This kind of task requires input from the academic world and research-oriented organizations. Because of their impartiality, these institutions can conduct their analyses in an unbiased fashion and facilitate coordination among different private and public agents.

At the invitation of the government of the State of Rio de Janeiro, FGV Projects coordinated an array of technical studies related to extending the subway from Ipanema to Barra da Tijuca, including related recommendations and alternative proposals for integrating new lines with the existing network, which presents a significant challenge.



When assessing integration between the existing and future subway lines, FGV Projects looked at two possible alternative routes and the engineering, legal risks and timeframe issues involved. This study covered automation, control, demographics, engineering, geological, and operational aspects, as well as estimates for passenger circulation and travel time between stations.

The following parameters were considered with regard to demand, a key issue in urban traffic feasibility:

• Over the past ten years, the Metropolitan Region of Rio de Janeiro has seen a 2.7% increase in income and a 3.5% increase in employment. • Service tax (ISS) revenues in Barra da Tijuca have increased threefold compared to the totals for the city and for neighborhoods currently serviced by Rio's subway system.

- Employment elasticity in the demand for subway transportation within the network was estimated at 0.30.
- Studies for the "21st-century Subway"¹ estimated an average annual growth rate in long-term overall subway demand of 2.31% for the period 2010-2035.
- The long-term demand growth rate calculated and adopted for the new line was 3.00% per year between 2016 and 2040.

FGV Projects also created a strategic management model for the subway project, with the purposes of coordinating the involvement

of different parties and fomenting the organizational drive to overcome challenges and complete the stations by the stipulated deadline.

Five new subway stations are to be built in a short amount of time as compared with previous construction timelines. These infrastructure projects will be built in concentrated, urban areas, meaning that the jurisdictions involved will require major coordination, especially between the private and public sectors.

Thorough technical analyses are critical for achieving the desired results.

A project of this magnitude, with specific deadlines, depends on a number of factors for success: political goodwill, an enterprising attitude, necessary funding, and the application of theoretical analyses and academic knowledge to practical issues.

STRATEGIC MANAGEMENT MODEL

1 EXECUTIVE COMMITTEE

FGV FOUNDATION

2 STRATEGIC MANAGEMENT

RESOURCES FINANCING & INVESTMENT

DEADLINES GENERAL TIMETABLE

RISKS

INTERFACES DESIGNS, CONSTRUCTION, ENVIRONMENTAL LICENSES, DEMAND

RE-BALANCING CONCESSIONS



PROCESSES & TOOLS

¹ The state government plans to expand the subway system's capacity from 500,000 to 1.5 million passengers per weekday.



783 PROFESSIONAL SOCCER CLUBS IN BRAZIL GENERATE MORE THAN 30,000 JOBS.

SPORTS

A POWERFUL ASSET: ASSESSING SOCCER'S ECONOMIC AND FINANCIAL IMPACT

ANTONIO CARLOS KFOURI AIDAR

DIRECTOR OF CONTROL

FERNANDO BLUMENSCHEIN

PROJECT COORDINATOR

The main component of Brazilian soccer's chain of production is a group of companies and institutions that together are called "soccer agencies." This group includes the bodies that participate directly in the organization and performance of professional soccer in Brazil, namely, clubs, federations, athletes and their agents or holders of federative rights, stadium administrations, and other relevant institutions. The economic activity of these entities can be summed up by the production of five end-products:

- Federative rights and the occasional negotiation commissions associated with them;
- Sponsorship quotas;
- Brand licensing rights;
- Broadcasting rights; and
- Ticket office and stadium venues' revenues, and fan membership programs.

While stadium revenues represent end-consumer goods, the other products are intermediate goods, consumed by various companies and institutions. Some of these companies and institutions worth mentioning are communications companies (principally pay-per-view and cable television), sponsors of clubs, competitions and television broadcasting, and licensed companies such as sportswear firms, as well as the actual soccer entities that procure and exchange federative rights, transfers and awards. This group of companies and institutions is called the "soccer sector".

These stakeholders are supported by the intermediate consumption of goods and services from various other sectors that forms soccer's "indirect chain of production". Two groups worth mentioning, which are particularly important suppliers of inputs, are: stadium

venues (mainly food and beverages) and raw materials for licensed articles (mainly textiles, but also plastic and other industrial inputs). Lastly, in terms of interactions with the foreign market, there is the importing and exporting of federative rights, in addition to the export of Brazilian soccer broadcasting rights.

According to official data, the 783 professional clubs in Brazil represent more than 30,000 jobs, creating a wage mass of around US\$ 475 million a year. Using input-output analysis of the entire aforementioned production chain, it is estimated that the national soccer sector's monetary flows total US\$ 13.4 billion.

From the microeconomic viewpoint, soccer's product is the dream of the capitalist producer: demand with low price elasticity and high income elasticity, a combination that rarely

 34

exists. Necessity goods generally have low price elasticity: that is, their demand is not very sensitive to price variation. On the other hand, luxury goods have high price elasticity and high income elasticity. It is, however, necessary to consider the heterogeneity of the product –a 2014 FIFA World Cup final, for example, has very different characteristics from a weekly match between local teams.

In countries with low *per capita* incomes, such as Brazil, it is important to insist on certain marketing best practices in the sports sector. Price discrimination must occur in order for soccer to remain accessible to all. It is fundamental to consider the fan as a customer:

THE CURRENT VALUE OF BRAZILIAN CLUBS' COMMERCIAL CONTRACTS IS ONLY 3% OF THEIR POTENTIAL.

to guarantee good food and washrooms, to provide numbered seating, and to improve the safety and access routes to the stadiums. Considering these factors, it is very likely that the money from the other two main sources, TV rights and sponsorships, will follow. However, this recipe only guarantees the sustainability (and potential growth) of the top Brazilian clubs. In order for the whole sector to be economically viable, it is important to reinforce the so-called "base", particularly the clubs that do not compete in the Brazilian Championship. One point that must be reiterated is, therefore, the

"federative pact" between the clubs. There is, in fact, a segment of literature that compares the models of the US baseball and American football leagues: contrasting rules regarding talent results in the baseball league model, for several reasons, concentrating more good players in only a few teams. This is detrimental to the league and to the overall sport, and has caused baseball to lose ground to American football among the sports-consuming public.

FGV Projects' studies quantified the impact of a performance gap, comparing a "potential" scenario — supposing that Brazil's soccer industry were similar to that of European countries — with the current Brazilian scenario. The major and most visible difference between the two lies in insufficient exploration and development of the economic potential associated with branding the main clubs and competitions. Brazilian clubs' commercial contracts are currently valued at only 3% of their potential. This gap could be overcome in a number of ways: by leveraging the different properties currently unexplored in the sector, by extending licensing to the level of European standards, and by increasing international exposure of Brazilian soccer. Both exporting the broadcasting rights of Brazilian competitions and expanding the participation of Brazilian clubs in international tournaments would increase the profile of Brazilian soccer abroad.

When comparing the European and Brazilian soccer industries, Brazilian clubs face a number of problems. First, there is competition with "pirated" (unlicensed) products, a major barrier

to lucrative exploration of licensing agreements. Second, clubs have governance problems, bringing insecurity to each component of the production chain. Lastly, the incompatibility between the Brazilian and international calendars creates lost opportunities, making it impossible for national clubs to compete in tournaments outside Brazil.

In addition, stadiums remain substantially unexplored as a source of revenue for the sector, both for the clubs and for other entities that administer them. As a result of the low occupation rates and diminished value added (compared to the European benchmark, where stadiums often combine various food, accommodation, entertainment and cultural services for the visitors), Brazilian stadiums' revenues correspond to only 37% of potential value.

Lack of attractive competitions is one of the factors that explain this inefficiency. Many games are of marginal importance, and fail to create critical mass. Furthermore, there has been little development in the club-fan relationship. Membership fees are high and not very beneficial. Also worth noting is the aforementioned lack of quality regarding the stadium experience.

Another major gap is that little is done for potential exporters in the Brazilian soccer sector. In addition to contributions to the trade balance that would come from extending Brazilian soccer to international exposure, as described above, mention should be given to



the gap in exporting federative rights, which today represent only 29% of the activity's potential value. This gap reflects the unfortunate yet prevailing situation in which the country exports its top talent. Players are often still in development academies and are almost always lured away at rock-bottom prices.

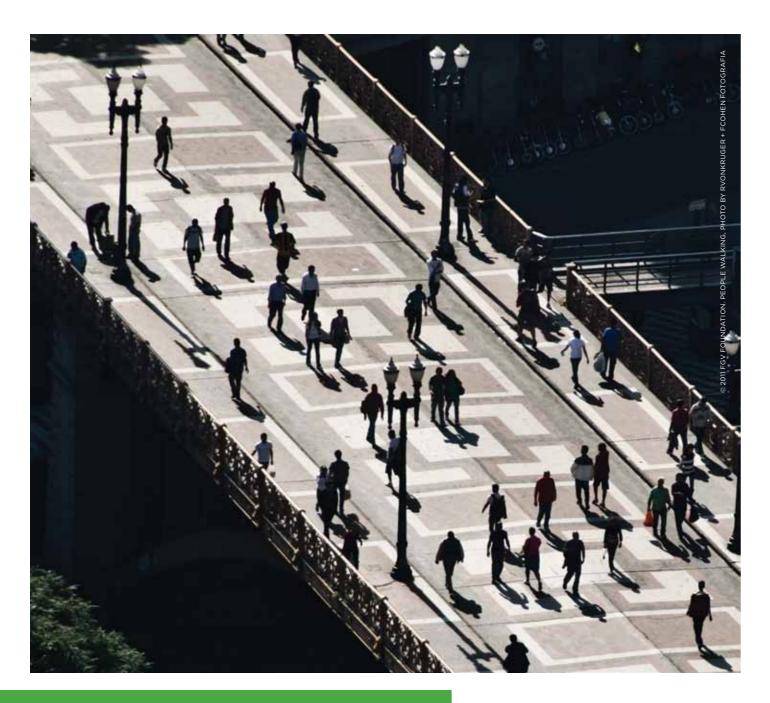
This situation is ongoing because of the high comparative value of foreign soccer for the Brazilian player, the fragility in the process of developing talent and attracting young players (by the "elite" clubs), and the financial incapacity of Brazilian clubs to keep players.

Lastly, at the "base" of the Brazilian club pyramid, and especially among the 683 clubs that do not compete in the Brazilian Championship, is the issue of employment in the soccer industry. Jobs created are of poor quality, often informal and seasonal, offer little salary, and have no employment benefits. A major cause of this problem is the insufficient competition calendar at the "base", but there is also the asymmetrical distribution inherent in the federative organization of soccer, which perpetuates the outright predominance of the elite clubs.

FGV Projects' studies show that, in the "potential" scenario, Series A continues to concentrate the sector's revenue, but the clubs at the "base" are in a significantly better situation, with a 227% higher production value. This new balance increases interest in competitions, again sparking widespread interest in the sport simply because more competitive games are more appealing. The existence of weak

clubs demonstrates that there is still sufficient demand for competitions from "local" and traditional clubs.

This potential scenario, when simulated using the production chain and input-output analysis methodology, demonstrates how improvement in quality standards can increase the economic potential of soccer even further. FGV Projects' simulations show a rise from US\$ 4 to 21.3 billion, while employment would increase from the current 371,000 jobs to 1.7 million. It should also be noted that these results do not include the effects of the 2014 FIFA World Cup, which will attract even more attention to soccer in Brazil.



BETWEEN 2001 AND 2009, THE INCOME OF BRAZIL'S POOREST 6.79% 7% PER YEAR

THE AGENDA OF THE **NEW MIDDLE CLASS**

MARCELO CORTES NERI

CHIEF ECONOMIST, CENTER FOR SOCIAL POLICIES - CPS1

Personal incomes in Brazil are rising across the board, as even the poorest are seeing gains. During the decade that ended in December 2010, Brazil's top 10% experienced a 10% rise in million citizens (50.5% of the population). income, while the income of the poorest climbed a remarkable 68% in real per capita terms, netting out inflation and population impacts. While Brazil still has one of the tenth highest inequality rates in the world, the country has just reached its lowest level of income inequality When adding together the middle and upper since records began in 1960. At the current growth rate, it will take 20 years to reach US levels. However, these figures indicate that there 2003-2009. At the other end, the base of the are considerable pro-poor growth reserves, which have only been explored in the last ten years². Furthermore, in terms of growth, the Brazilian economy is again steadily increasing since the end of the 2008 recession.

THE NEW MIDDLE CLASS As a result of the combination of growth and reduced inequality between 2003 and 2009, 29 million Brazilians joined the ranks of the so-called new middle class (Class C), bringing it to a total of 94.9 Classes A and B, on the other hand, grew even more in relative terms (39.6%) in the same period, adding a further 6.6 million, to total 20 million Brazilians (10.6% of the population).³

economic strata summarized in classes A, B and C, 35.7 million people were added in the period economic pyramid, formed by classes D and E, was reduced from 96.2 million in 2003 to 73.2 million in 2009; two million people left classes D and E during the year of the international crisis. This means that in the last seven national household surveys, a sizable number - totaling more than half the population of the United Kingdom - was included in classes A, B and C.

The above figures provide opportunities for reflection on two fronts, one political and the other economic. The 50.5% of Brazilians comprising the new middle class include the median voter considered to be the one who decides the second round of any elections. In fact, this group alone could decide the final outcome of an election campaign. Moreover, the new middle class is now also the dominant economic class. In 2009, it represented 46.2% of Brazilians' purchasing power, thus exceeding classes A and B, with a combined 44.12% of total purchasing power. The remaining classes D and E today have 9.65% of purchasing power, dropping from 19.79%, their amount of purchasing power before the launch of the Real Plan.4

MARKETS We must continue on the path of reducing inequality and bringing people into the middle class. The prevailing approach has

¹ See http://cps.fgv.br/pt-br/desenvolvimento-humano.

² See the study www.fgv.br/cps/dde.

⁴ FGV figures are currently used by authorities in the Ministry of Finance, Central Bank and Presidency of the Republic as semi-official statistics. They are also adopted by the opposition government and society at home and abroad (via www.fgv.br/cps/nmc).

been referred to as one of "giving the poor to the markets," but we must empower the poor by regarding them as the creators of their destinies rather than passive beneficiaries of official handouts and consumer credit. We must go further and "give the market to the poor," capturing the opportunity presented by recent growth.

In terms of the Confucian dilemma of "giving fish" versus "teaching how to fish", we must now provide poor people who have learned to fish with access to the "fish market". The

WE MUST REGARD THE POOR
AS THE CREATORS OF THEIR
OWN DESTINIES.

socialist version of this process would be to redistribute the fish, but in this case, the image of a fishing net (social capital – cooperatives, etc.) would perhaps be a better metaphor.

Market access for the poor is beneficial. Since there is no additional tax burden on the rest of society, Pareto improvements are possible, meaning that no one is worse off due to gains for the poor. When the markets are very incomplete, as in the case of poor people - it is possible to cast aside the old dilemma between efficiency and equality, and subsequently gain on both sides of the political aisle by harmoniously combining these objectives.

On the financial side of public policy, popular productive credit (microinsurance and microcredit) is a fundamental channel to support low-income entrepreneurship. The example of Crediamigo, which belongs to a federal public bank operating in a very

poor area, Banco do Nordeste, is instructive. Crediamigo operates in the same way as Bangladesh's Grameen Bank, founded by Mohammad Yunus, as it uses a solidarity group to provide collateral. The Brazilian bank covers 60% of the Brazilian microcredit market, creating an average profit increase of 13% per year for its clients, mostly informal backyard businesses, grocery stores, odd-job service providers, and private schools and nurseries. The probability that a poor client climbs out of poverty just 12 months after the initial credit is opened is 60% against a 2% probability of movement in the other direction. Furthermore, the program generates a profit of 50BR\$ a year per client, and operates without government subsidies. Crediamigo has just been voted the best microcredit institution in the Americas by the Mix Market, the top microcredit rating agency on the continent. Wealth exists in the midst of poverty and the state can interact synergistically with the private sector to find it.

Macroeconomic stability creates fertile ground for developing markets at the bottom of the pyramid, and also reduces violence. The UPPs (Units of Pacifying Police) that specialize in patrolling Rio de Janeiro's favelas (urban shantytowns) are a living example of how an increase in order can lead to an increase in progress, especially in wealthier areas that have withstood greater capital losses due to insecurity. Care must be taken not to permanently rely on the process but to provide solutions that stand on their own, raising the more general question of guaranteeing rights of ownership after the removal of special police units and their efforts.

AGENDA "Giving the market" means, first and foremost, improving people's access to the labor market. Here, economic growth and

related reforms are essential. Labor, social security and tax reforms (reducing payroll taxes, etc.) enhance the correlation between growth and employment. However, since more than two million formal jobs were generated only last year, most people are willing to overlook the need for reform. The persistent question, though, is: how many more jobs could have been created if the institutional structure were more favorable?

EDUCATION Both technical and professional education are like a passport to formal jobs. The agenda of paying teachers according to their pupils' grades is another recent example of efficiency wages, an idea prevailing in the states of São Paulo, Pernambuco and the City and State of Rio de Janeiro. Since the public sector is, or at least should be, closer to the poor, it is able to pave the way to the market. Assessments of learning proficiency give parents transparency regarding quality in their children's schools, thus improving the public sector's role. Social goals complement this movement by including the private sector's efficiency in the public sector through a pseudo-market, since there are no prices. The learning goals of the elementary education development index (IDEB), Movimento Todos Pela Educação (All for Education Movement) and the Dakar forum, are examples of this.

Some would like an agenda that is friendlier toward private action, while others would like a broader welfare state. Deep down, most Brazilians want both: a state that respects market rules while maintaining active social policy. The challenge is to combine the virtues of the state with the virtues of the markets, endeavoring to prevent failures on each side. This middle-of-the-road approach will be paved by the new Brazilian middle class.



MACROECONOMIC STABILITY CREATES
FERTILE GROUND FOR DEVELOPING
MARKETS AT THE BOTTOM
OF THE PYRAMID.

⁵ The Plano Real (Real Plan, in English) was a set of measures taken to stabilize the Brazilian economy in early 1994, under the direction of Fernando Henrique Cardoso as the Minister of Finance, during the presidency of Itamar Franco.

PROVIDING EFFICIENT SOLUTIONS

180 PROJECTS IN 17 BRAZILIAN STATES

2010 TECHNICAL ASSISTANCE PROJECTS

ENHANCING ADMINISTRATION IN THE FEDERAL EDUCATION SYSTEM

Brazil's Ministry of Education offers professional, scientific and technological education options in every state of the country. Students can enroll in a technical school or obtain a bachelor's, master's or doctorate degree at a university. Schools within the federal network excel in academics, as evidenced by the fact that their students consistently take top place in national assessments.

FGV Projects conducted studies intended to enhance the administration of the Ministry of Education and its Federal Education System. The studies focused on strategically restructuring the Management Integration Center. Studies also concentrated on reviewing and enhancing the management processes of the Program for Improving Goods and Service Procurement.

The Management Integration Center provides technical tools for developing the Ministry of Education's programs and improving its performance. Enhancing the procurement model entails analyzing the ministry's current modus operandi so it can be integrated with the Federal Education System, involving coordinating, monitoring and assessing results according to the process laid out in the Education Development Plan.

STUDIES FOR URBAN PLANNING PROJECT IN DOWNTOWN SÃO PAULO

As Brazilian urban centers grow, the local governments of larger cities must constantly focus on properly allocating and planning their spaces. FGV Foundation was a member of the consortium that won the bid for São Paulo City Hall's "Nova Luz" Urban Rehabilitation Program in 2010. Other experienced members of the consortium included: Concremat Engenharia, one of Brazil's largest engineering companies; Cia. City, an urban planning firm that has operated in Brazil for over a century; and AECOM Technology Corporation, a global technical and management services company responsible for many internationally-renowned urban planning designs.

The Nova Luz region of downtown São Paulo covers 45 blocks — or 500,000 fully-developed square meters occupied by more than 12,000

residential dwellers and many businesses.

Over time, as the region has been degraded by changes in land use, residents and businesses have moved away from Nova Luz. Today, many of the area's buildings have been abandoned.

A concessionaire, which won a bid to rehabilitate the area, will restore buildings, build housing developments and launch new commercial and service establishments. FGV Projects will conduct economic and financial feasibility studies to aid in the success of this program, which includes the region's commercial revival. The project will directly and positively impact quality of life for the region's citizens, and will raise values of public and private property.

26

THE MINISTRY OF EDUCATION'S FEDERAL EDUCATION SYSTEM HAS SCHOOLS IN ALL 26 BRAZILIAN STATES. 2020

ELETROBRAS' GOAL IS TO BE THE LARGEST CLEAN-ENERGY, GLOBAL BUSINESS SYSTEM BY 2020, WITH PROFITABILITY COMPARABLE TO THAT OF THE TOP ELECTRICITY COMPANIES.

20

Nationwide, Eletrobras has installed the capacity to generate 39,453 megawatts of energy, including half the capacity of Brazil's Itaipu power plant and more than 59,000 km of power lines. FGV Projects conducted technical and research studies of Eletrobras' management models, as well as alternatives for corporate restructuring. These studies aim to guide the restructuring and global expansion of the

Eletrobras system, and are part of the company's

transformation plans.

RESTRUCTURING THE ELETROBRAS

SYSTEM FOR GLOBAL EXPANSION

This project included an examination of the company's prevailing operating model, and offered alternative corporate, organizational, and management models that add value to the company.

500

THE "NOVA LUZ" PROJECT AIMS
TO DEVELOP 500 NEW SHOPS
AND SERVICES IN THE REGION
OVER THE NEXT 20 YEARS.

120,000

THE BRAZILIAN BAR
ASSOCIATION EXAMINATION,
ORGANIZED BY FGV PROJECTS,
IS GIVEN FOR 120,000
CANDIDATES.

SUPERVISION OF BRAZILIAN BAR ASSOCIATION (OAB) EXAMINATIONS

The Brazilian Bar Association (OAB) is an independent professional body that regulates and supervises the work of Brazilian law professionals. FGV Projects facilitates OAB exams, required of all law graduates, for the Brazilian Bar Association.

Brazilian bar examinations are administered in two stages. The first stage, which is comprised of multiple-choice questions, assesses graduates' knowledge of public and private law. The second stage focuses on candidates' area of specialization. Lawyers cannot practice in Brazil

without the Brazilian Bar Association license, which is awarded only to candidates who have passed the bar exam.

FGV Projects acts in an advisory capacity by programming the exam, preparing questions and specific assessment instruments, and coordinating the distribution and correction of tests in 164 different cities around the country. This oversight guarantees compliance with public regulatory notices. To date, more than 210,000 candidates in Brazil's main cities have taken these two examinations.

FEASIBILITY STUDIES FOR BIOFUEL PRODUCTION IN 12 COUNTRIES

FGV Foundation understands that biofuels help boost developing economies. FGV Projects has been tirelessly dedicated to producing and transferring knowledge on the production of biofuels in Africa, Central America, and the Caribbean. To this end, the U.S., E.U. and various African governments have already signed various technical cooperation agreements.

This movement has gained wide support from major entities and companies, among them the Ministry of Foreign Affairs and of Science and Technology, the Brazilian Trade and Investment Promotion Agency, Brazilian mining multinational Vale, the Inter-American Development Bank and the Organization of American States.

FGV Projects has so far conducted economic and financial feasibility studies for biofuel production in 12 countries: the Dominican Republic, El Salvador, Guatemala, Guinea, Guinea-Bissau, Haiti, Honduras, Liberia, Mozambique, Saint Kitts and Nevis, Senegal and Zambia. The studies attest to the capacity of biofuels to attract private investment, boost wealth generation, improve income distribution and circulate economic resources. They have also shown that biofuels may contribute to reducing poverty and to fully developing the agricultural and food production sectors.

12

FGV PROJECTS CONDUCTED
FEASIBILITY STUDIES FOR
BIOFUEL PRODUCTION IN 12
COUNTRIES IN THE CARIBBEAN,
CENTRAL AMERICA AND AFRICA.

3,500

PROCON-RJ FOUNDATION
ADDRESSES ROUGHLY 3,500
COMPLAINTS PER MONTH AT ITS
HEADQUARTERS. THE AGENCY
ALSO MAINTAINS AGREEMENTS
WITH 14 COUNTRIES AND
16 UNIVERSITIES.

PROCON-RJ

Brazil's legislation for the protection of consumer rights is among the most modern in the world. Passed in 1987, the current Consumer Protection Code sets a high standard for Brazilian consumer relations and ensures that consumer rights are protected by law. The Rio de Janeiro State Consumer Guidance and Protection Program (PROCON-RJ) works under the central agency of the Ministry of Justice, which heads all relevant agencies nationwide.

In Rio de Janeiro, consumer protection falls under state jurisdiction and must be performed by a public foundation. In order to comply with this legislation, PROCON-RJ became a public foundation. FGV Projects advised PROCON-RJ on the creation of an appropriate organizational structure and management model, allowing the program to achieve its objectives.

In addition to designing operating parameters, FGV Projects identified PROCON-RJ's successes and best practices. Furthermore, FGV Projects analyzed and defined the organization's institutional-legal model, by-laws, rules of procedure, and employment and career planning. After these models were approved, the PROCON-RJ Foundation was launched, by government decree, on October 27, 2010.

RIO DE JANEIRO STATE MEMORIAL

FGV Projects is advising the State Executive Secretariat on the creation of a Rio de Janeiro State Memorial, which will house the new headquarters of the state's public archives and be a place for ongoing recognition of the history and identity of the state. To determine the contents of the memorial's permanent exhibition, the country's preeminent professionals in art, culture, history, heritage and sports attended a seminar at FGV School of Social Sciences. The memorial will also host temporary exhibitions.

Three firms competed to design the new building in a closed competition. In 2010, FGV Projects approved the chosen design and forwarded it to the Ministry of Culture. Companies that provide support for the project can receive tax deductions under the Federal Cultural Incentive Act.

PRESERVING HISTORY AND IDENTITY

FGV PROJECTS ADVISES ON A CENTER TO HONOR RIO DE JANEIRO STATE'S HISTORY AND IDENTITY.

PROJECTS CONSOLIDATED BY FGV PROJECTS IN TOURISM, USING DIAGNOSTIC ANLYSIS, PROJECTIONS AND PROPOSALS.

9

DRAFTING A NATIONAL STRATEGY FOR TOURISM IN BRAZIL FOR 2011 TO 2014

Over the next five years, Brazil will host two of the world's largest sporting events, requiring society's full mobilization, the capacity to coordinate between various organizations, and considerable private-public cooperation.

Academic analysis has been widely applied to different aspects involved in hosting the 2014 FIFA World Cup and 2016 Olympic Games, in order to guarantee their success and to create a positive legacy for the country. FGV Projects was hired by various public and private organizations to carry out studies related to various aspects of Brazilian tourism. A highlight of these studies is now available, and is referred to as the Brazilian Tourism Reference Document for 2011 to 2014.

The document analyzes how tourism has developed in Brazil and appraises the prospects of additional international tourism. Scenarios and projections were designed using information from reputable institutions and taking into account the impacts of both mega-events. Using forecast indicators and projections, FGV Projects pointed to possible alternatives for tourism development and provided a set of recommendations and guidelines to advance tourism in Brazil and to reach projected targets.

 4

ORGANIZATIONAL DIAGNOSIS AND STATUS ANALYSIS FOR WHIRLPOOL

When preparing an organizational diagnosis, it is important to develop a framework that identifies an organization's main problems and makes connections among them. This framework makes it possible to prioritize the actions needed to achieve strategic objectives within a certain timeframe, and is intended to build a stronger, better company.

In 2010, FGV Projects conducted an organizational diagnosis and status analysis for Whirlpool, a leader in the Latin American home appliance market. To complete this task,

FGV Projects took a number of steps, such as collecting and analyzing information and documents, holding a number of technical meetings, participating in a strategic planning seminar, conducting 46 interviews with the company's senior and managerial staff, and distributing questionnaires to in-company teams. FGV Projects was able to provide Whirlpool with a foundation for organizational restructuring and to help align the home appliance unit with the organization's overall strategic planning.

46

FGV PROJECTS CARRIED OUT 46 INTERVIEWS WITH WHIRLPOOL DIRECTORS TO PREPARE AN ORGANIZATIONAL DIAGNOSIS. 94

FGV PROJECTS APPLIED BALANCED SCORECARD METHODOLOGY IN BRAZIL'S 94 COURTS AND COUNCILS.

MANAGEMENT UPGRADE PROGRAM FOR THE NATIONAL COUNCIL OF JUSTICE (CNJ)

The Brazilian judiciary operates nationwide through courts and councils in every state in the country. In a country of such immense size, providing any quality service nationwide is a major challenge, and administrative setbacks have saddled the Brazilian judiciary with the image of a slow-moving and inoperative institution. Similarly, the courts are perceived as lacking continuity because of the succession model, which mandates rotations every two years. FGV Projects prepared a groundbreaking project in the Rio de Janeiro State Court of Appeals, which was given honorable mention for its creativity and innovative administration, in addition to being awarded three additional prizes.

FGV Projects leveraged the FGV Foundation's vast experience in public administration to provide consulting services to the National Council of Justice, which is at the head of the administration of the Brazilian judiciary.
FGV Projects developed a program to modernize court administration and to adopt strategic planning using balanced scorecard methodology in the 94 Brazilian courts and councils. The process helped draw up a concrete diagnosis of the Brazilian Judiciary, and ultimately led to improved performance, now noticeable to the public, by creating a single statistical base, goals to measure progress, and a thorough follow-up program.

SHARING KNOWLEDGE

14 SEMINARS
1,048 REPORTS
30,000 PRINTS
USD 120 MILLION
BUDGET IN PROJECTS
MANAGEMENT

PUBLICATIONS

MAGAZINES, STUDIES AND REPORTS

























REACHING OUT TO THE WORLD

INTERNATIONAL PROJECTS AND PARTNERSHIPS

INTERNATIONAL

PROJECTS AND PARTNERSHIPS

GENERAL SECRETARIAT OF THE ORGANIZATION OF AMERICAN STATES

ADVISORY SERVICES FOR DEVELOPING BIOFUEL PROJECTS.

INTER-AMERICAN

DEVELOPMENT BANK (IDB)

FEASIBILITY STUDIES FOR ETHANOL

PRODUCTION IN HAITI.

MINISTRY OF ECONOMY OF
EL SALVADOR
ECONOMIC-FINANCIAL AND
TECHNICAL PREFEASIBILITY

PRODUCTION USING SUGARCANE

IN EL SALVADOR.

STUDIES FOR ETHANOL

LOMBARDY REGIONAL
RESEARCH INSTITUTE (IRER)
NEW PROFILES IN INSTITUTIONAL
AND TERRITORIAL RELATIONS. THE
INSTRUMENTS FOR TERRITORIAL
DEVELOPMENT IN THE LOMBARDY
REGION COMPARED TO SOME
INTERNATIONAL EXPERIENCES.

GOVERNMENT OF THE
DOMINICAN REPUBLIC
INTERNATIONAL CONFERENCE BIOETHANOL AND CONTINENTAL
INTEGRATION. DOMINICAN
REPUBLIC.

INTER-AMERICAN

DEVELOPMENT BANK (IDB)
PREPARING ENVIRONMENTAL,
FINANCIAL, SOCIAL AND TECHNICAL
STUDIES IN HONDURAS PURSUANT
TO A SIGNED CONTRACT.

INTER-AMERICAN

DEVELOPMENT BANK (IDB)

PREPARING ENVIRONMENTAL,

FINANCIAL, SOCIAL AND

TECHNICAL STUDIES IN GUATEMALA.

FOREIGN AFFAIRS
FEASIBILITY STUDIES ON BIOFUEL
PRODUCTION IN THE REPUBLIC
OF SENEGAL.

BRAZILIAN MINISTRY OF SCIENCE & TECHNOLOGY FEASIBILITY STUDY OF BIOFUEL PRODUCTION IN GUINEA-BISSAU. VALE S/A FEASIBILITY STUDIES ON BIOFUEL PRODUCTION IN AFRICAN COUNTRIES: REPUBLIC OF GUINEA, REPUBLIC OF LIBERIA, REPUBLIC OF MOZAMBIQUE, AND REPUBLIC OF ZAMBIA.

ABOUT FGV PROJECTS

TEAM

With over 20 years of experience providing technical assistance to Brazilian institutions, FGV AND OPERATION Projects brings together expertise, state-of-theart methodologies and a staff of well-prepared efficient management practices in public, private • Organizational Modeling and Restructuring and non-governmental organizations in Brazil and abroad. FGV Projects' studies and projects are carried out based on the experience of FGV Foundation's professional experts and academic in the areas of public policy, administration, finance and economics, FGV Projects devises solutions for the implementation of best practices Management in the following key sectors of activity:

- Communications and Neuromarketing
- Media and Technology

- Education

- Public Safety
- Social Responsibility and Sustainability

- Transportation

AREAS OF KNOWLEDGE

ADMINISTRATION

- Human Resources
- Central Office of Interdisciplinary Projects
- Organization of Public Examinations
- Shared Services
- Advanced Information Technology

• Institutional and Legal Review and Analyses

ECONOMICS AND FINANCE

- Strategic Sector Analysis

- Mergers and Acquisitions
- Tax Analysis
- Risk Management Using Derivatives

PUBLIC POLICIES

- public-private partnerships
- Plan for regional economic development
- Evaluation of results and impact of
- Public Policies
- Tax Administration
- Municipal Master Plans
- Support for Public Safety and Social

Defense Management



Praia de Botafogo, 190, 6th floor

Avenida Paulista, 1294, 15th floor phone: 55 11 3799-4170

DIRECTOR

Cesar Cunha Campos PhD. Transportation Planning

TECHNICAL DIRECTOR

Ricardo Simonsen PhD. Economics

DIRECTOR OF CONTROL

Antônio Carlos Kfouri Aidar MSc. Economics

PROJECTS VICE-DIRECTOR

Francisco Eduardo Torres de Sá

STRATEGIES AND MARKETING

VICE-DIRECTOR

Sidnei Gonzalez



Creative Directon: Andrés Clerici / ORB Graphic Design: Sean Callen / ORB Coordination: Silvia Finguerut and Melina Bandeira

Support: Eduarda Moura, Manuela Fantinato, Maria João Macedo, Patricia Werner and

Teresa Borges

English Editing and Revision:

David del Vecchio

Photos: rvonkruger + fcohen fotografia and

Graphic Production: Dulado Design

```
BEZERRA NETO • AGNES DANTAS • AIRTON FEREIRA • ALBERLANDINO ARLINDO GUIMARÃES SILVA • ALBERTO GODOY GARCIA COELHO • ALDEMIR ALVES RODRIGUES JUNIOR • ALESSANDER MONACO FERREIRA • ALESSANDRA MASTRELLI • ALESSAN
 RO NADER PINHEIRO DE ABREU • ALEXANDRE AKIO MOTONAGA • ALEXANDRE MENDONCA DE BARROS • ALINE BARBOSA DOS SANTOS • ALINE BARRANCO PEREIRA • ALINE COSTA RODRÍGUES ERMIDA • ALKET
DE CAMPOS GURGEL * ANTONIO TYLA * ARMANDO SANTOS MOREIRA CUNHA * ARNALDO RENATO PIRES DE SOUZA * ARTHUR BARRIONUEVO FILHO * ARTHUR RIDOLFO NETO * AUGUSTO FROMENT FERNANDES * BAIENA FEIJOLO SOUTO
DO NASCIMENTO CALDAS • BEATRIZ GASTALDONI • BERNADETE TENORÍO DE SIQUEIRA ZIMMERLE • BERNARDO MOUSTAPHA ANDREIS • BIANCA KOTHENCZ BOECHAT DA SILVA • BIANCA PADILHA OZIAS • BIANOR SCELZA CAVAL
CANTI • BRUNA ALCANTARA BUZO • BRUNO CASOTTI LOUZADA • BRUNO DE MIRANDA SANTOS • BRUNO FERREIRA DA SILVA • BRUNO NASCIMENTO • CALOGER SAUVEUR BARBUSCIA • CAMILLA ESTEVÃO RODRIGUES • CAMILLA LAMBER SALMAZI
CAMILLA PARANHOS REZENDE • CARLO FERRENTINI SAMPAIO • CARLOS ALBERTO DA SILVA MAGALHAES JUNIOR • CARLOS ALBERTO PESSOA WELLISCH • CARLOS ARAÍ FERDINAND JORDÃO • CARLOS AUGUSTO LOPES DA COSTA • CARLOS EDUARDO
COELHO FARIAS • CARLOS EMÍLIO COSTA ACCIOLY TELES • CARLOS EUGÊNIO DA COSTA PIRES • CARLOS GUIMARÃES XAVIER • CARLOS OSCAR AGUIEIRAS LOPES • CARLOS OTAVIO QUINTELLA • CARLOS ROBERTO SÍCOLI • CARLYLE TADEU FALÇÃO D
OLIVEIRA • CARMEN LUCIA COELHO SCHIAVO • CAROLINA LICCIARDI • CASSIANO MORAES FALLEIROS • CELESTE MARIA PEIXOTO CORRÊA • CELSO CASTRO • CELSO DE OLIVEIRA BELLO CAVALCANTI • CELSO FERNAI
 CELSO NOBURU IKEDA • CESAR CUNHA CAMPOS • CESAR HENRIQUE DO NASCIMENTO • CHARLES FAY • CHRISTINE DE NAZARE S KOURY • CID NARDY • CIRO GONDIM LEICHSENRING • CLAUDE MACHLINE • CLAUDEA DUTRA • CLAUDEA GENAR
FREITAS • ERNESTO LOZARDO • ESTEVÃO PASSOS ELLER • EUCLIDES PEDROZO • EUGENIO AUGUSTO FRANCO MONTORO • EVALDO ALVES • EVANDRO JACÓIA FAULIN • EUSI PAES • FABIANA MONTAGNERI • FABIANO GONCALVES R
GARCIA • FABIOLA DE MARTINO BARROS • FAUSTO BERNARDES MOREY FILIDO • FATIMA SILVA • FELIPE FRANÇA SCHONTAG • FELIPE PALMA • FERNANDO BARBOSA FERREIRA • FERNANDO CELSO GARCIA DE FREITA
FERNANDO FERREIRA QUINTELLA - FERNANDO FRANCA SCHONTAG - FERNANDO KLEBER DE ARAÚJO SOUZA - FERNANDO MAIDA DALL'ACQUA - FERNANDO NAVES BLUMENSCHEIN - FLÁVIA ALFENAS AMORIM - FLAVIA MARIA BAPTISTA DE CA
                         FLAVIANA BEZERRA PINHEIRO • FLAVIO MARCILIO RABELO • FLAVIO ROBERTO COLARES DE VASCONCELOS • FLAVIO SANTANA SENA • FRANCISCO EDUARDO TORRES DE SÁ • FRANCISCO HUMBERTO VIGNOLI • FRANCISCO MARCEL
 BARONE NASCIMENTO • FRANCISCO RÓZSA FUNCIA • FRANCISCO TADEU RODRIGUES BARROS • FREDERICO DAMÁSIO DE CARVALHO • FREDERICO JOSE LUSTOSA COSTA • FREDY WELZEL • FUAD SACRAM
                          NAUMANN • GABRIEL PRECIADO SAMPAIO • GABRIEL RUBIO GOMES • GABRIELA GOMES DA SILVA COSTA • GABRIELA SERPA PINTO FONTENELLE PEREIRA • GABRIELLA GARCIA SOUTO FERNANDES • GEORGE BA
 ECORGIANA GOULART DE CARVALHO - GERCINA ALVES DE OLIVEIRA - GERSON LUIZ PESSOA - GESUALDO DE SOUZA ALMEIDA - GILBERTO OLIVEIRA RAMOS - GILLARD AUGUSTO BERNARDINO - GILNEI MOURÃO TEIXEIRA - GIOVANNA
DRADE SALES • GISELA FALCI LOURES • GISELE ALE DOS SANTOS • GISELE COUTINHO ROSA • GIULIANO MARCHINI SENATORE • GLAUCE DE OLIVEIRA CARVALHO • GLAUCIA MARIA BON • GORET PEREIRA PAULO • G
• JAPIR DE MELLO JUNIOR + JAQUELINE ACHERMAN + JEAN JACQUES SALIM • JEFFERSON RENATO TEIXEIRA RIBEIRO • JEOVAN DE CARVALHO FIGUEIREDO • JHONSON CAMPOS DAMASCENO • JOÃO ADOLFO PONCHIO • JOÃO ARTUR SOUZA
* JOÃO BATISTA NETO DE CAMPOS * JOÃO BEZERRA MAGALHÃES NETO * JOÃO CARLOS HOPP * JOÃO DE PEDRO * JOÃO DE PEDRO
E SOUZA - JOÃO MARIO CSILLAG - JOÃO PAULO CAMPANHA MALLET - JOÃO PAULO VILLELA DE ANDRADE - JOÃO PEDRO GOMES DA SILVA - JOÃO PRIMO DE CARVALHO FILHO - JOÃO ROBERTO PERES - JOICE DE CAMARGO - JORGE GUSTAVO DA
COSTA + JORGE OLIVEIRA PIRES - JOSE ANTONIO SCHONTAG - JOSÉ BANDEIRA DE MELLO JUNIOR - JOSÉ BENTO CAPLOS AMARAL JUNIOR - JOSÉ CARLOS GUIMARÃES ALCÂNTARA - JOSÉ EDUARDO DE VASCONCELLOS GUINTELLA - JOSÉ
LIMA GONÇALVES * JOSÉ FERNANDO NAHON * JOSÉ HILÁRIO NUNES DE MEDEIROS * JOSÉ JORGE ABDALLA * JOSE PAULO SILVA DOS SANTOS * JOSÉ RICARDO CAVALCANTE * JOSÉ SÉRGIO LAROTONDA JÚNIOR *
DE ALMEIDA GOMES - JULIANA BRANQUINHO GUIMARÃES PEREIRA - JULIANA DOS SANTOS FRIGGI BARBOSA - JULIANA GONÇALVES MAYRINCK - JULIANA HOLANDA FARIAS DE ARARIPE - JULIANA SCHUMAN - JULIANA RIBEIRO DE ALMEIDA
GOMES PARENTE - KAIO HENRIQUE FAUSTINO • KAIO MONTENEGRO • KARIN MERZ FERNANDES DE SOUZA • KARINA OLIVEIRA • KARINA DILLARA D'ALKIMIN • KATIAN BACELAR • KELLY BRITO • LAERTE MOREIRA DE SOUZA JR. • LANA MONTEZANO DA
SILVA - LAURA DA COSTA M MONTEIRO - LAURO EMILIO GONZALEZ FARIAS - LEANDRO RODRIGUES SANTOS - LEANDRO SILVEIRA - LEONARDO BARREIRA - LEONARDO BOSCOLO CAVALHEIRO B
LEONARDO JACINTHO TEIXEIRA • LEONARDO JUSTIN CARÁP • LEONARDO SIQUEIRA VASCONCELOS • LEOPOLDO ANTONIO DE OLIVEIRA NOTO • LETICIA BORGES NEDEL • LETICIA NOGUEIRA DUARTE • LIA OMURO • LIDIA DOS SANTOS
LLA PINTO • LUIGI LETTIERI MOURA CORREA • LUIS ALEXANDRE DE PAULA CAMPBELL • LUIS ANTÔNIO PINAZZA • LUIS HENRIQUE BERTOLINO BRAIDO • LUISA PERCILIANA RIBEIRO • LUIZ ANTÔNIO DE
RYCHTER - MARCIA MAGALHÃES DA SILVA - MÁRCIO DE LIMA COIMBRA - MARCIO DOS SANTOS GUIMARÃES - MARCIO LAGO COUTO - MARCO ANTONIO ACCIOLI - MARCO ANTONIO MIRANDOLA - MARCO AURELIO RUEDIGER - MARCO
BRIGIDO - MARCOS CHAVES MARTINS - MARCOS DE SOUSA LEMOS - MARCOS FELIPE MAGALHÃES - MARCOS VINÍCIUS FITTIPALDI - MARCUS CESARE FERRENTINI SAMPAIO - MARCUS MENTZINGEN DE MEI
DONCA - MARCUS VAL SPRINGER - MARIA ALCIMA COSTA GOMES - MARIA ANTONIETA DEL TEDESCO LINS - MARIA APARECIDA BERNARDO DE SOUZA - MARIA APARECIDA V. BEZERRA DE MENEZES - MARIA AUXILIADORA DE CA
MENDES TENÓRIO - MARÍA DO CARMO FÍALHO LICIO - MARÍA FÁTIMA DA SILVA - MARÍA FERNANDA P. LEITE SOARES - MARÍA JOÃO PESSOA DA C DE S MACEDO - MARÍA JOSÉ PEREIRA - MARÍA ROBERTA SILVEIRA VIÁNNA - MARÍA
CARMO DE ARAUJO - MARIANA DIAS DE MORAES - MARIANO FUTEMA - MARILENE RAMOS M DOS SANTOS - MARILIA LOPES QUEIROZ - MARILIA MAGARAO COSTA - MARINA CABRAL DE ALMEIDA - MARILA BICUDO DREYFUSS - MARILIA LOPES QUEIROZ - MARILIA MAGARAO COSTA - MARINA CABRAL DE ALMEIDA - MARILIA BICUDO DREYFUSS - MARILIA LOPES QUEIROZ - MARILIA MAGARAO COSTA - MARILANO FUTEMA - MARILANO FUTEMA
ZONI NETO * MARIO ROBSON DA SILVA FREITAS * MARLENE CRUZ MELO CELESTINO * MARLI GRIESI CAMARGO * MARLI TEXEIRA DE OLIVEIRA LOPES * MARLIZE MACIEL DE ARAUJO PORTO * MARTHA DA COSTA GERALDO * MAURÍCIO BI
REIRA • MAURÍCIO BRIZOTI • MAURICIO CLEBER SILVÁ • MAURICIO COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO COSTA • MAURICIO COSTA • MAURICIO MARTINEZ • MAURICIO WANDERLEY ESTANISLAU DA COSTA • MAURICIO COSTA • M
             CK TASCHNER • MELINA DE SOUZA BANDEIRA FERREIRA • MICHEL JOURDAN • MICHEL BILVA DE BRITO • MÔNICA DE SOUZA ARAUJO • MONICA MELANIO • MONICA MONTANES FERNANDEZ • MONICA RACHE DE ANDRADE • M
  E ARAÚJO - MURILO MOREIRA - NATALIA NUNES VIEIRA - NATALIA PILA - NATALIA PILA - NATALIA BARBOSA DA SILVA - NELSON MARCONI - NELSON RODRIGUES VILELA - NEWTON FLEURY - NILSON BRIZOTI - NILSON SALES PEREIRA JUNIOR - 1
MACHADO - NOELIA MARISTELA LIMA DE MELLO RIBEIRO - ODALÉA CLEIDE ALVES RAMOS - ORLANDO CARNEIRO DE RIBEIRO ARNAUD - ORLANDO CATTINI JUNIOR - OTAVIO MIELNIK - PAGLA BASTOS LOHMANN - PATRICIA GARCIA N
 IUGLIA DA SILVA FERREIRA * PATRICIA WERNER * PAULA FONSECA ESTEVES * PAULA MARINHO CAMPOS DE OLIVEIRA * PAULO CESAR RODRIGUES LIMA * PAULO CESAR STILPEN * PAULO CESAR BATTISTEL
EDUARDO FIGUEIREDO FREITAS * PAULO HENRIQUE RIBEIRO SANDRONI * PAULO HUMBERG * PAULO MÁRCIO DA SILVEIRA GARCIA JÚNIOR * PAULO ROBERTO GARCIA COELHO * PAULO ROBERTO HUMMEL * PAULO ROBERTO LUCIO * P
```

HENRIQUE CALICCHIO PAGNANO • PEDRO HENRIQUE MAUL • PEDRO LUIS ALVES • PEDRO P. BRUZZI • PEDRO PAULO DE TOLEDO GANGEMI • PEDRO SANTOS DE MIRANDA • PEDRO TRENGROUSE • PEROLA AKERMAN • PÉRSIO DE GOMES T/
PRISCILA LACERDA • QUINTINO JUNQUEIRA • QUISE COSTA MASCARENHAS • RACHEL BIDERMAN FURRIELA • RAFAEL ALVES DE ALMEIDA • RAFAEL KAUFMANN NEDAL • RAFAELA GARCIA ARAUJO • RAFAELLA ANDRADE AZEREDO • RAIZA AD
RAQUEL AGUIAR PEREIRA • RAQUEL DE ALMEIDA PEDRO • REGINA CURY • REGINA DE ALENCAR ROSA • REINALDO BELICKAS MANZINI • RENATA GOMES DA SILVA • RENATA MARAGNO • RENATO BOTTINI • RENATO GIOSA MIRALLA • RENATO

YVIANA WANDERLEY CIDREIRA NEVES • ZULMIRA SPERIDÃO • MELINA DE SOUZA BANDEIRA FERREIRA • MICHEL JOURDAN • MÔNICA DE SOUZA ARAUJO • MONICA MELANIO • MONICA MONTANES FERNANDEZ •

RENATO JORGE BROWN RIBEIRO * RENATO LACERDA DE LIMA GONÇALVES * RENATO PAGNAN * RENAUD BARBOSA DA SILVA * RICARDO ALEXANDRE PEREIRA * RICARDO CARDONI DANELLI * RICARDO CORREA HENNING * RICARDO DE OLIVEIRA * R CARDO DO VALLE DELLAPE * RICARDO FERRO TAVARES * RICARDO KOHN DE MACEDO * RICARDO PEREIRA DA SILVA * RICARDO RATNER ROCHMAN * RICARDO SIMONSEN * RICARDO WYLLIE * ROBERTA ALVES VAMPRE HUMMEL * ROBERTO BEVILACOU

DE ANDRADE • MONIQUE RIBEIRO DE ARAÚJO • MURILO MOREIRA • NATALIA NUNES VIEIRA • NATALIA PILA •

OTERO • ROBERTO CELESTINO PEREIRA • ROBERTO DA COSTA PIMENTA • ROBERTO MEIRELES PINHEIRO • ROBERTO OLIVEIRA • ROBERTO PEREIRA GUIMARÃES • ROBERTO PEROSA • ROBERTO RODRIGUES • SOUZA GREENHALGH DE OLIVEIRA • ROBSON DOS SANTOS MAGALHÃES • ROBSON GONCALVES • ROBSON RIBEIRO GONCALVES • RODRIGO FERNANDO DIAS • ROGERIO FEITAL SOARES PINTO • ROGERIO GAMA • RONALDO AFONSO • RONA



KNOWLEDGE

