

Export performance of rubber products manufacturing sector in Sri Lanka

J K S Sankalpa*, Wasana Wijesuriya* and P W Jeewanthi*

**Rubber Research Institute of Sri Lanka, Dartonfield, Agalawatta, Sri Lanka*

Received: 04 December 2013

Abstract

This paper attempts to study the performance of rubber products exports during the period, 2007 to 2012. The performance was measured using growth of total products exports and their categories. Although the rubber industry in general, has shown less growth in year 2012, the products industry showed satisfactory growth with global financial recovery. Fall in sale of vehicles is one major factor caused decline in demand for tyres and tubes which accounted for 57% of Natural Rubber (NR) consumption globally. Average annual growth of Sri Lankan rubber export earnings decreased by 15% in year 2012 which can be attributed to 2% reduction in world rubber consumption. Dry rubber based products had an export value share of 78% while latex based rubber products had a share of 22%. Out of the latex based rubber products, industrial and surgical gloves have a share of 99 %. Solid tyre sector earned US \$ 331 million in 2012 and was the largest contributor in tyre sector in the last 6 years. USA is the largest importer of solid tyre from Sri Lanka while Belgium, Germany and Italy are the other major importers of solid tyres. There will be a strong growth in original equipment and replacement tyre sales as a result of increased vehicle production in the future. Replacement car tyre sales are expected to move from 786 million units in 2012 to 1.3 billion units by 2022. The value added rubber products give high foreign earnings per metric ton than raw rubber export earnings. Hence, the industry should pay more attention to encourage export of more value added rubber products than raw rubber.

Key words: devaluation, growth, productivity, performance, raw rubber, rubber products

Introduction

Sri Lankan rubber industry has experienced a steady growth despite occasional fluctuations and is now an important contributor to the national

economy. Total export value was almost US\$ 0.98 billion in 2012. However, while this is a respectable figure, it counts for a very little portion when compared to world rubber industry.

Hence, certain innovations are necessary in the rubber sector to attain global competitiveness. Due to rapid increase in demand for Natural Rubber (NR) in the world, investment in rubber sector is highly profitable. Rubber goods have a large market potential in the world. The opportunities should be optimized to encourage the growth of rubber downstream industries to meet the anticipated growth in the industry.

Rubber products manufacturing sector can be classified broadly into two sub-sectors; viz. latex based products and dry rubber based products. Latex products include rubber gloves, hygienic or pharmaceutical articles (catheters), latex thread and articles of apparel and clothing products. Solid rubber products mainly consist of two categories, namely tyre and non tyre. Tyre sector includes pneumatic tyres, solid tyres and tread materials.

The non tyre sector comprises of products which can be grouped under;

- Consumer Rubber Products- Footwear, rubber goods for food and pharmaceutical applications, toys, sports and leisure goods
- General Rubber products- Moulded and extruded products, rubber mats, belting, hoses and tubes
- Industrial Rubber Products- High performing engineering rubber mouldings and extruded products, Conveyor belts, Engine mounts.

Development of rubber industry leads to increase in consumption of NR reducing the expenditure on imports of rubber goods, increase in employment

opportunities and increase in foreign exchange earnings. Hence, investigating the performance of recent past in Sri Lankan rubber sector is of utmost importance in decision making with a view to achieve the targets. There have been several studies undertaken on NR sector performance by Tillekeratne (1998), Samarappuli (1995) and Tillekeratne and Samarappuli (1995). However, comprehensive studies focused on export performance of the rubber industry are limited. This study is based on export data collected from Sri Lanka Customs and was carried out with the objective of investigating the export performance of value added items, viz. different types of finished products in the NR sector of Sri Lanka, to facilitate appropriate decision making and policy formulation.

Methodology

The analysis was based on the secondary data for the last 6 years (2007 to 2012) on the value of exports of finished rubber products. Major types of rubber products, Solid tyres, Pneumatic tyres and Gloves which gain higher revenue to the sector have been focused in the analyses. Secondary data were pre processed according to the Sri Lanka Custom HS code (Harmonious System Code).

In order to derive more realistic assessment of the growth rates, nominal values of trade in rupees term were deflated with respective annual exchange rates with US dollars so as to eliminate the effects of devaluation and minimize the chances of over

estimations (Equation 1). Real effective exchange rates for the time period were taken from Central Bank Annual Report, 2012. The value of major rubber products and annual average growth rate for Rubber Products exports were estimated for the consecutive time period (Equation 1).

$$GR = \left(\frac{R_{ex-present} - R_{ex-last}}{R_{ex-last}} \right) 100 \quad (1)$$

GR = Product growth rate

$R_{ex-present}$ = Real export value for respective year

$R_{ex-last}$ = Previous year export value

Results and Discussion

The export earnings from finished rubber products accounted for US\$ 814.4 million in year 2012 which is about five times higher than the export value of raw rubber (Table1). Sri Lanka

is in a move to upgrade its rubber sector to capitalize on the trend and also to reach the US\$ 3.2 billion export target set for 2023. Further productivity improvements in the rubber sector could enhance benefits from high prices for NR in the international market. An increase of Rs.4542 million was observed in total export earnings from the rubber sector in local currency terms when 2011 and 2012 are compared. 2012 recorded a reduction in earnings by US\$ 110 million compared to 2011. The industry recorded a positive growth during the last few years, although negative growth rates were observed in 2012 and 2009 (Fig 1). The year-on-year annual growth rate has declined in 2012 to -15% from 52% in 2011 and created a foreign exchange loss of approximately US\$ 110 million in the last year.

Table 1. Export earnings from raw rubber and finished products

Year	Nominal values of export earnings (US\$ Mn)			Annual growth rate* (%)
	Raw rubber**	Finished products	Total	
2007	112.6	480.2	592.8	
2008	130.3	536.2	666.6	37
2009	101.8	381.0	482.8	-26
2010	179.9	549.8	729.6	55
2011	230.4	860.7	1,091.1	52
2012	166.6	814.4	981.1	-15

Source: Sri Lanka Customs

* In order to derive more realistic assessment of the trends, nominal values of trade in rupee terms were deflated with respective annual exchange rates with US dollars to eliminate the effects of devaluation of rupee and to minimize the chance of over estimation.

** Raw rubber with semi processed products

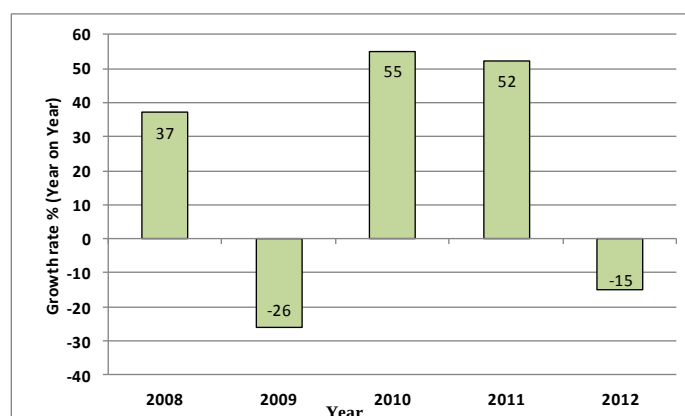


Fig. 1. Annual growth rates of rubber exports (year on year basis)

Export performance of finished rubber products

Share percentages of earnings from rubber finished products exports are given in Table 2. Dry rubber based products have an export value share of 78% while latex based rubber products have a share of 22%. Out of the latex

based rubber products, hygienic or pharmaceutical articles have a very minimal share. In the dry rubber sector, tyre category dominates the non-tyre sector with a share of 85% of the export value share of the dry rubber based products.

Table 2. Export values of different finished products of rubber in year 2012

Category	Export value (US\$ Mn)	Sub category	Export value (US\$ Mn)
Dry rubber based products	636(78)	Tyre	541.1(85)
		Non-Tyre	94.8(15)
Latex based rubber products	178.4(22)	Surgical and industrial gloves	176.6(99)
		Hygienic or pharmaceutical articles	1.7(1)

Note: The share percentages are given in parenthesis

Sri Lankan external trade in rubber and rubber products has been dominated by the value added rubber products consisting of 11 product groups from HS codes 4007 to 4017. By looking at the rubber exports, following points can be illustrated: (i) despite market recession in year 2009, the country has been maintaining a favourable balance of trade throughout the six year period; (ii) the average share of the value of finished products exports was 81% from total exports in year 2007 changed to 83% in 2012; (iii) year on year average growth rate of the total value of rubber finished products exports was 36% from year 2007 to 2008 and it decreased to -10% from year 2011 to 2012.

Tyre sector export performance

In the tyre manufacturing sector, Sri Lanka produces pneumatic and semi pneumatic tyres, tubes, solid tyres, and re-treading materials. Despite the reduction of tyre exports to about 56% in 2009, tyre sector accounted for more than 60% share in the total value of

exports in the rest of the period. The share of export earnings in 2012 accounted for 66% of the earnings from the tyre sector. Solid tyre sector earned US\$ 331 million in 2012. It was the largest contributor in tyre sector in the last 6-years period. The Asia/Pacific region was by far the largest market for tyres, accounting for over half of global tyre sales in 2010. According to the forecasts the region will register the strongest growth in tyre demand through 2015 (Anon, 2012a). In Sri Lanka, the revenue from new pneumatic tyre exports was US\$ 215.4 million in 2011 and a small drop was observed in 2012.

Both new pneumatic tyres and solid tyres were the major contributors to export earnings, giving respective percentages of 38% and 61%, on the export value of the tyre sector. Figure 2 depicts the export earnings received from pneumatic tyres and solid tyres from 2007 to 2012, which shows that solid tyres are still the major contributor to Sri Lanka's export value.

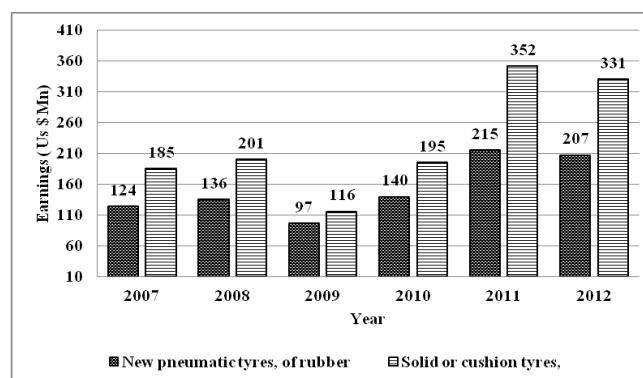


Fig. 2. Share of export earnings from major types of tyre produced in Sri Lanka

New pneumatic tyres of rubber

The tyres produced under this type consist of tyres used for motor cars including racing cars, buses, lorries, motor bicycles, bicycles and industrial machinery. Tyres for motor vehicles, which accounted for over 60% of all tyre demand in 2010, are expected to remain the largest segment of the tyre market in 2015 (Anon, 2012b). New pneumatic tyres of rubber are used for motor cars, wagons, racing cars, buses and lorries and always maintained the highest demand in pneumatic tyre sector (Table 3). This sector earned US\$ 19.9 million in 2011 and US\$ 27.7 million in 2012. Figure 3 compares the quantity and earnings of pneumatic tyre exports. Total export quantity of new pneumatic

tyres was 10,066,243 units in year 2012. It was only 9,632,000 units in the previous year. According to the world market news, demand for these kinds of tyres grows at a rate of 5% per annum. Sri Lankan new pneumatic tyre sector accounts for approximately 38% of total tyre sector earnings in year 2012. Motorcycle tyres are categorized into two types; viz. road tyres and off road tyres. Road tyres are designed for more miles, better handling, grip and safety by positioning hard and soft rubber where needed. Off road tyres are designed for extreme conditions requiring cut resistance in addition to other normal requirements expected from a motor cycle tyre.

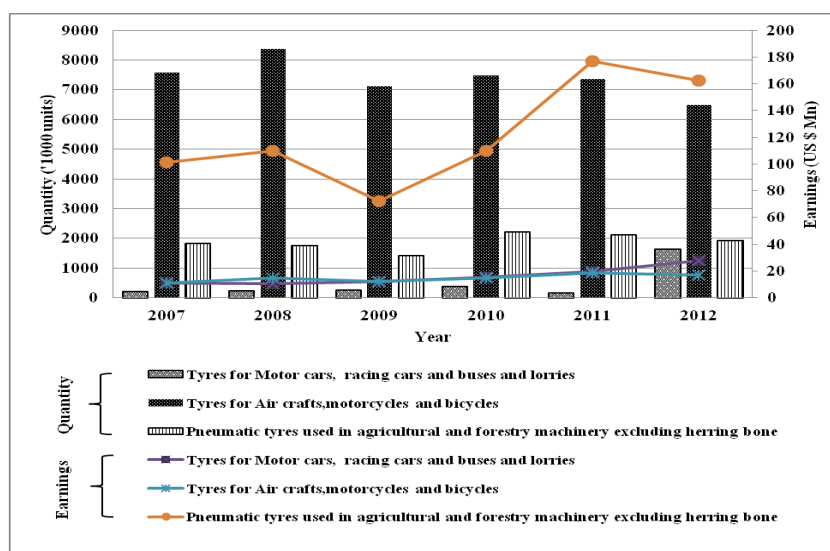


Fig. 3. Quantity and earnings of pneumatic tyre exports from Sri Lanka

Europe is said to consume 30 Million bicycles annually and is growing at a rapid rate due to interest in cycling to work and pleasure. Quantity of bicycle tyre exports from 2007 to 2012 is depicted in Figure 4. Total export of bicycle tyres was 7.56 million units in year 2012 and it was decreased to about 9 percent against the previous year. Tanzania, Italy and Egypt are the major bicycle tyre importers from Sri Lanka. Sri Lanka exported 2,958,419 of bicycle

tyres to Tanzania and earned US\$ 8.4 million year 2012 which was about 50 percent of total exports. There were no huge fluctuations of pneumatic tyre export quantities during last few years. Different types of export values of tyres used in motor cars, buses and lorries recorded a higher value in the year 2012 against previous year. According to Sri Lanka customs records, there had been an increase of 1.62 million units.

Table 3. *Export performance of pneumatic tyre sector in year 2012*

Type of pneumatic tyres	Export earnings (US\$ Mn)	Share percentage (%)
Motor cars, station wagons, racing cars, buses and lorries	27.7	13
Air craft tyres, motorcycles and bicycles	17	8
Tyres used in machinery (agricultural forestry) excluding herring bone	144	78
Tyres used in machinery (agricultural forestry) having herring bone	19	0.004

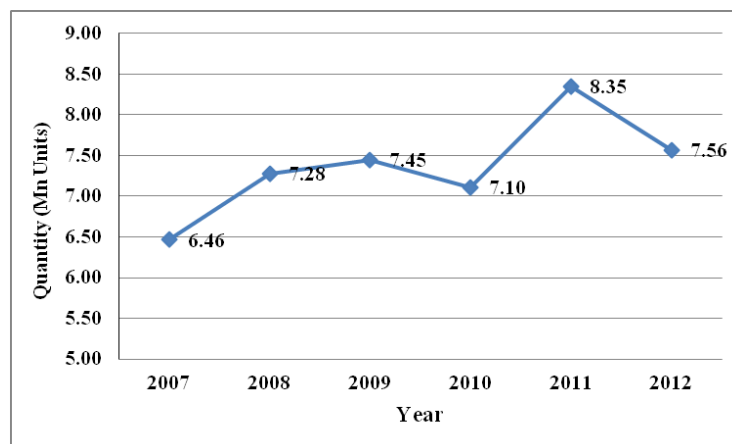


Fig. 4. Quantity of bicycle tyres exported from Sri Lanka

Solid or cushion tyres

In particular, Vietnam and Sri Lanka in Southeast Asia which enjoy a large rubber output developed rapidly in solid tyre manufacturing field in recent years by virtue of their advantages in resources (Anon, 2011). USA is the largest importer of solid tyre from Sri Lanka. Belgium, Germany, Italy are the other major importers of solid tyre products. Solid industrial tyres are primarily used in material handling vehicles in areas as airports, ports and transporting goods for storage. Sri Lanka has developed into a reputed centre for the production of solid industrial tyres. Sri Lankan solid tyre sector earned US\$ 352 million in year 2011 and US\$ 331 million in year 2012 (Fig. 2). However, the quantity of solid tyre exports has reduced by 15% in year 2012 against the previous year. In 2009 like the other industries, Sri Lankan solid tyre processing industry too suffered from global financial crisis. In 2009, according to the statistics of Sri Lanka Customs solid tyre industry recorded a reduction of 41 percent in average annual growth against the previous year. Solid tyre sector performed well in the years 2010 to 2011 achieving higher growth rates of 73% to 84%, respectively.

Re-treaded or used pneumatic tyres of rubber

Sri Lanka has exported higher number of re-treaded tyres in year 2011 than the

year 2012. However a dramatic reduction in the demand for freight in 2009 led to a decrease in demand for tyres. There are several benefits of using re-treaded tyres since landfills are restricted by some European countries. Loss of raw material in tyre manufacturing resulted re-treading more cost effective. US and Europe re-treading tyre industry has recovered from the drastic fall during the 2008-2010 global economic slowdowns and now strikes a steady growth path. Some major re-treading companies in USA continued to expand their production which led to reduced demand for imports of re-treaded tyres. China, Russia and European Union have expanded their technology innovations to produce re-treaded tyres in the last few years. Estonia and Israel were the largest importers of re-treaded tyres from Sri Lanka. Estonia accounted for about 25% of total re-treaded tyre earnings of Sri Lanka.

Non tyre sector export performance

Non-tyre sector comprises of consumer rubber products, general rubber products and industrial rubber products. In the footwear industry, Sri Lanka was among the pioneers of supplying footwear in the world. Growth performance of non-tyre sector is depicted in Figure 5.

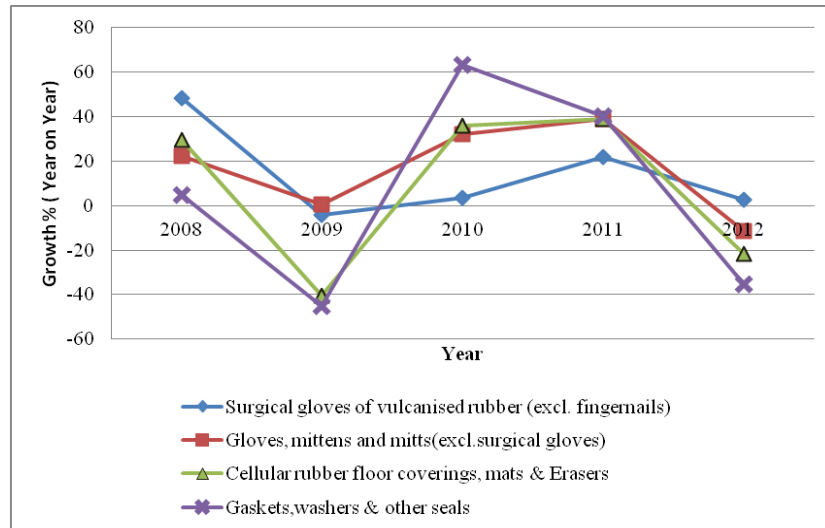


Fig. 5. Non-tyre sector export performance

Surgical gloves

Latex is perhaps the best raw material to manufacture certain products such as surgical gloves, thin walled products like condoms and extremely flexible hoses. World Health Organization (WHO) defines medical gloves as disposable gloves used during medical procedures. They include, examination gloves (non-sterile or sterile) and surgical gloves that have specific characteristics of thickness, elasticity and strength.

Global demand for medical gloves is growing at 8 – 10 percent per annum. Malaysia is the largest contributor, supplying 63% of global demand while 29% and 9% is supplied by Thailand and Indonesia, respectively. Glove manufacturing and exporting industry of Sri Lanka is placed as one of the top

manufacturers of the world which also contributes more than 5% of the global demand (Anon, 2011). This sector has performed well during the year 2011 by increasing their growth up to 22% (Fig. 5). Total earnings from export of surgical gloves was US\$ 43 million in year 2012 which accounted for 25% of total latex based products. The value of exports earnings from surgical gloves was US\$ 45 million in year 2012.

Household gloves, mittens and mitts

The global demand for rubber gloves has increased due to recent regulations on occupational safety. The demand for rubber gloves is expected to grow by 10% per annum (Elaine, 2013). Mittens are made from the same durable and lightweight rubber. Five finger gloves are used under harsh temperatures. The

three finger mitten allows for precise hand movement as well. Year on year growth of this group has decreased by 11 percent in year 2012 in the Sri Lankan export market. It showed 1% growth during the year 2009, even in the presence economic recession. This sector earned US\$ 142 million in 2011 while the sector has performed 39 percent growth. This sector contributed about 72% of total latex based rubber products earnings in year 2012.

Cellular rubber floor coverings, mats and erasers

Carpets and Floorings are among the products where interest has been extended in Sri Lanka. The growth of this sector has decreased by 21% in the year 2012. USA, France and Germany are the major export destinations of these types of products. USA contributes about 28% of total cellular rubber earnings of Sri Lanka.

Gaskets, washers and other seals

Gaskets are the most effective designing, engineering and manufacturing solutions required to most industrial applications. Seals help in running machines as smooth as possible. Sector performed well during the year 2010 by increasing its year on year growth of about 64 percent. Like cellular rubber floor coverings, mats and eraser sector also showed negative growth rates in year 2012 compared to previous year. Sweden contributed more than 65% of the export earnings in year 2012 to Sri Lanka.

Conclusion and Recommendations

An analysis of performance of Sri Lanka's rubber sector during the last six years highlights the following observations, viz. (i) though the growth rate reduced to some extent during the economic crisis, Sri Lanka has achieved a satisfactory level of growth in rubber sector (ii) exports of finished products indicated a higher share for dry rubber based products (78%) due to the magnitude in share of pneumatic tyres and solid tyres, (iii) although growth has been reduced sharply in year 2012, the tyre sector was prominent during the last six years with more than 60% share in the total value of exports and (iv) Sri Lanka was one of the largest contributors of medical and industrial gloves sector in the world during the last six years. Further, the observed trends were in close agreement with the changing pattern of world demand for rubber and global financial situation.

The importance of value added rubber products marketing reforms need to be realized in order to achieve the target of Rs.3.2 billion in year 2023. The non-tyre products sector should be given high priority in the presence of a steady increasing global demand. According to IRSG forecast, the total world tyre production is expected to increase by 6.6% in 2013, with 2014 output expected to expand by a further 6.9%. Government should initiate formulation of laws on marketing of secondary rubber products and regulations adoption by manufactures, promotion of public-private partnerships in the

management and development of the rubber sector in the country.

References

- Anon (2011). China Vehicle Solid Tire Industry Report, 2011-2012. Accessed on 25th June 2013. Retrieved from <http://www.researchinchina.com/htmls/report/2012/6430.html>
- Anon (2012a). Rubber and Rubber Based Products, Export Development Board, Sri Lanka. Accessed on 28th June 2013. Retrieved from <http://www.srilanka-business.com/find-sri-lankan-suppliers/product-profiles/rubber-and-rubber-products>.
- Anon (2012b). Market report for the rubber industry. Accessed on 28th June 2013. Retrieved from http://www.rubberworld.com/RWmarket_report.asp?id=750.
- Anon (2013). 1Year Crude Oil Prices and Price Charts. Accessed on 28th June 2013. Retrieved from <http://www.infomine.com/investment/metal-prices/crude-oil/1-year>.
- Central Bank (2012). Annual Report. Central Bank of Sri Lanka, Colombo, Sri Lanka.
- Elaine, B (2013). Glove makers for compete to international demand. Accessed on 29 June 2013 Retrieved from <http://www.theedgemalaysia.com/highlights/243547-feature-glove-makers-to-compete-for-international-demand-.html>.
- Frent, P (2010). World tyre manufacturers- Market analysis, 2010-2015 trends – corporate strategies. Global market and competition. Accessed on 28th June 2013. Retrieved from http://edu.ubordeaux4.fr/courses/ANAFI/document/Travaux_dirig%E9s/2012/autres_documents_li%E9s_au_td03/01_Xerfi_%E9tude_sectorielle.pdf?cidReq=ANAFI.
- Samarappuli, I N (1995). The need to supplement the research cess on raw rubber exports and investigation of alternative policies. *Bulletin of the Rubber Research Institute of Sri Lanka* **32**, 22-34.
- Tillekeratne, L M K (1998). Improvements to be done in the raw rubber industry to improve occupational safety and hygiene. *Bulletin of the Rubber Research Institute of Sri Lanka* **37**, 71-74.
- Tillekeratne, L M K and Samarappuli, I N (1995). Effects of Asian currency crisis on the rubber industry of Sri Lanka. *Bulletin of the Rubber Research Institute of Sri Lanka* **39**, 40-44.

Address for correspondence: Mr J K S Sankalpa, Agricultural Economics Unit, Rubber Research Institute of Sri Lanka, Dartonfield, Agalawatta, Sri Lanka.
e-mail: ssankalpa2@gmail.com