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# ECONOMIC AND TECHNICAL ITEMS

## SWISS LIFE INSURANCE AND PENSION COMPANY, ZURICH

On 9th May, the Board of Governors of the Swiss Life (Chairman Dr. H. Homberger) approved the report for the financial year 1969.

The total sums insured in respect of life policies effected in 1969 was Sfr. 3,372 million (previous year Sfr. 2,861 million) and the total amount of annuities effected in 1969 was Sfr. 135 million (previous year Sfr. 115 million). The total sums insured in force at the end of 1969 in respect of life policies is more than Sfr. 16,587 million and the corresponding total amount of annuities Sfr. 743 million, there being more than 1½ million policies in force.

The premium income increased by Sfr. 73 million to Sfr. 740 million. Payments under policies amounted to Sfr. 443 million of which Sfr. 124 million were paid as bonuses to policy holders. Sfr. 404 million were transferred to actuarial reserves.

The net annual receipts in 1969 were Sfr. 156½ million of which Sfr. 3 million were transferred to Reserve funds (which now amount to Sfr. 38 million), and the balance transferred to Surplus reserves for the purpose of bonus payments.

Total Premium and Investment Income of Swiss Life in 1969 exceeded Sfr. 983 million and the total assets of Swiss Life now exceed Sfr. 5,231 million.

Because of his election to the Federal Council of Switzerland, Mr. Pierre Graber has resigned as a member of the Board of Governors. Dr. Paul Hoffman of Rapperswil was elected to the Board of Governors as a new member, with effect from 8th May 1970.

(*Swiss Life Insurance*)

## The First Swiss Inventors Exhibition in Basle in 1970

Every year a great many Swiss inventors take part in the Inventors Exhibitions held in Brussels, London and Nuremberg. From now on, they will have an opportunity of displaying their inventions in their own country. In fact, at the suggestion of a Swiss manufacturer, the Swiss Inventors Association has decided to hold a special exhibition devoted to new Swiss inventions each year during the Swiss Industries Fair in Basle. (OSEC)

## A Swiss "do-it-yourself breathalyser

A Swiss firm recently marketed a breathalyser for measuring the alcohol content in the blood. This simple, rapid and inexpensive device is particularly welcome today now that most countries have introduced legislation concerning the alcohol content in the blood of motorists. The device consists of a small glass tube containing a

chemical reagent, a protective tube for long preservation and a plastic bag holding 265 cc of air when inflated. The breath blown into the bag is passed through the tube of reagent simply by pressing on the bag. The operation lasts only three to four minutes. Two types of tube may be fitted to this device: the first, with sufficient accuracy up to 1%, automatically turns black three minutes after the breath has been squeezed through the reagent; the other is used for alcohol contents between 1 and 2% but it needs to be heated (by match or lighter) once the breath has gone through the reagent. The same firm has made an instrument for carrying out in three to four minutes the whole cycle of operations required for analysing the alcohol content in the blood thus excluding any error due to faulty handling. This instrument is designed to take a given volume of breath which is passed through an ampoule of bichromate of potassium, which loses its colour in the presence of alcohol. The decoloration proportional to the alcohol contained in the blood is measured very accurately by means of an ultra-sensitive photometer and the result transferred on to a reading instrument. (OSEC)

## A new, completely shockproof Swiss watch

Life is becoming more and more hectic today. Any manufacturer wishing to market products satisfying the needs of the consumer has to take this fact into account. Not only violent sports but also a great many manual jobs compel watch manufacturers to make models capable of standing up to the roughest treatment. A Swiss firm recently produced a watch guaranteed against all defects that could possibly be caused by shocks or falls. It is provided with a very original shockproof device: it does not protect the movement only as in traditional watches but all parts of the watch. The new device consists of a metal ring with supple "legs" like those of a spider, cushioning all shocks whether perpendicular or lateral. The movement attached to this ring floats freely and is able to move in the case and return to its proper position once the shock is over. The beryllium bronze ring also makes it possible to avoid any magnetising effects. This antimagnetic, heat-resistant watch is ideal therefore today when people are brought daily into contact with more and more powerful magnetic fields from appliances and instruments like TV sets, refrigerators, etc. This watch is entitled to the shockproof label, for it is one of the few in the world to satisfy the very strict standards laid down in Switzerland and the United States. The watch is tested by

submitting it to a series of shocks by means of a special instrument, the ram-pendulum. This consists of a metal rod ending in a sabot which knocks against the watch glass. This very violent blow (approx. 75 lb.) is followed by a second on the edge of the case. If, after these two tests, the watch shows no signs of any defect and if its timing error does not exceed 60 seconds, it is considered to be shockproof. (OSEC)

## A Swiss launches the plastic headlight

In Brussels a Swiss inventor displayed the first plastic headlight in the world capable of satisfying the high standards laid down for European asymmetric headlights. Thanks to the sectors of its rear section and the carefully calculated angle of the ridges, this headlamp gives a better distribution of the light over the road with an angle double that of the traditional models. This headlamp, whose rays are cut off at a height of just under four feet above the ground, is non-dazzle and extremely effective in fog. In addition, it has the advantage of standing up to big differences in temperature without any damage. Its cost price is 25% lower than that of an ordinary headlamp. (OSEC)

## A Swiss railway company opens up new possibilities

The construction of one of the last big Swiss dams calls for the transport of tremendous quantities of cement by train, up a slope of as much as 200°. Safety regulations prohibiting the traction of waggons on a rack-rail here, these have to be pushed and not pulled, which would normally involve the employment of extra personnel, always difficult to recruit. In agreement with the builders, the company's specialists found an original solution: they studied the possibility of placing powerful headlamps and a TV camera on the front of the first wagon. The images are transmitted on to a screen situated in the driver's cabin located at the back of the convoy. But the conditions of use raised many difficulties. On coming out of the tunnel the contrast in an electronically controlled diaphragm giving a better image than the human eye. By means of this system, the driver can clearly see all signals as well as any obstacles on the line. This ingenious solution has made it possible to solve the problem of driving trains by remote-control from the rear. (OSEC)

## The contribution of a Swiss Engineering Consultants Firm

The construction of motorways in a mountainous country like Switzerland calls for a considerable amount of engineering work, which has to satisfy many technical requirements but with means adapted to the country's financial possibilities. It is up to the engineering consultants office to select the best solutions. The Montreux-Glion tunnel on the Lake of Geneva motorway is an example of the work done by a Swiss engineering consultants office. This construction job, built in difficult terrain, consists of two parallel

winding tunnels 4,400 and 4,430 feet long, each comprising two lanes. Ventilated by a semi-transversal system of ventilation and lighted by 900 sodium-vapour lamps these tunnels also contain numerous safety devices controlled automatically or at a distance from a centre situated just under four miles away. The building of this tunnel raised many problems; the actual site made a horizontal profile impossible. The volume of exhaust gases being proportional to the degree of slope, any increase in the gradient would have resulted in an enlargement of the section of the tunnel, costly and bulky ventilating plant, large service premises and increased overheads. The research carried out by the firm of engineering consultants Bonnard & Gardel, in co-operation with the builders of the tunnel, led to the adoption of a slope of 2.6% for one of the tunnels and 2.35% for the other, with different systems of ventilation. (OSEC)

#### Structure of employment in Swiss industry

In September, 1969 the 12,208 Swiss industrial firms registered with the Federal Statistics Bureau totalled 882,414 employees. Compared with the same month of the previous year, the number of firms had fallen off by 461, while that of employees had risen by 5,447. The total number comprised 567,592 Swiss and 314,822 foreigners (i.e. a good third). Compared with 1968, in the industrial sector there were some 5,000 fewer Swiss and 10,600 more foreigners. The machinery industry recorded the largest number of employees (265,000), followed by the "Metallurgy and Metal-Workers" group (121,000) and watchmaking (73,000). These three branches thus provided employment for over half the total number of industrial employees. There was also a very large labour force in the clothing industry (66,000), in textiles (63,300) and in chemical factories (61,500). Except for chemicals and watchmaking, these groups make

the largest call on foreign workers. Women, numbering some 257,000, accounted for 27% of the whole of the personnel employed in industrial firms. (OSEC)

#### Insurance in Switzerland

The Swiss devote over half their expenditure on insurance (57%) to life assurance and the protection of dependents. On an average every Swiss set aside a sum of 1,019 francs (U.S. \$237) to it in 1968, which represents a total of 6.2 billion francs (U.S. \$1.5 billion). If health insurance (15%) and accident insurance (13%) are added, it can be seen that about 5/6ths of the expenditure devoted to insurance in Switzerland concerned the insurance of people. For 1968 this amounted to a total of 9.2 billion francs (U.S. \$2.1 billion), i.e. over 1,600 francs (U.S. \$372) per head of the population. By way of comparison, it should be pointed out that Switzerland's total military expenditure including civil defence, is barely a fifth of this amount. (OSEC)

and historic quotations take the reader back to the early days of the Swiss chocolate industry. An interesting account is given of the path trod since those heroic times when chocolate was a luxury product made entirely by hand down to the present day when it is a mass-consumption manufactured on fully automatic machines. We see the growth of the firm down through the years, the evolution of wrapping and advertising. We see, too, how five generations of Sprüngeli's have made this small family concern a big firm known all over the world today, exporting to all continents and with a turnover topping the S.Fr. 200 million mark (U.S. \$46.5 million). (OSEC)

## SNTO INFORMATION

#### THE GREAT WORLD THEATRE

Einsiedeln (SNTO):—On the monumental square in front of the world famous abbey church the players of Einsiedeln are going to perform this summer once again the well-known play by the Spanish poet Don Pedro Calderon de la Barca. Calderon, poet to the Spanish royal court, in 1675 put this play into Seville's Corpus Christi procession. But across the ages he appeals directly to us even today. For nearly five decades the inhabitants of Einsiedeln have been performing every five years throughout the summer "The Great World Theatre of Einsiedeln". All the performers are lay actors. Their names do not appear on any programme and yet they manage to achieve an impressive unity. The Great World Theatre of 1970 in Einsiedeln is an allegoric play about human life on the world's stage. It deals with success and failure, with transitoriness and eternity. On the square in front of the great abbey church the Master calls the world and men to the great play which is life. His words, "Every part can lift you up", are the play's spiritual focus, the great wisdom of life. The Beggar becomes the touchstone for all men. However, only Wisdom stands the test. The others send the Beggar away, Wisdom welcomes him. These two play their parts best and are permitted to sit down at the Master's table, to eat his bread and to behold his face without fear. The Rich Man sinks into the depths of eternal torments. He did not pass the test but heaped guilt upon guilt. The King and the Beauty and the Boisterous Farmer may rise to the light upon purification. — Erwin Kohlund is responsible for the staging and management; the music is by Heinrich Sutermeister while costumes and props are designed by Toni Businger. More than 500 people participate in

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